

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350) RATING DO-C9 PAGE OF 1 PAGES 302

2. CONTRACT NO. (Proc. Inst. Ident.) NO.

NNJ06JE86C

3. EFFECTIVE DATE

See 20C

4. REQUISITION/PURCHASE REQUEST/PROJECT NO.

4200106317

5. ISSUED BY:

CODE BJ4

NASA Johnson Space Center
Institutional Procurement Office
Mail Code: BJ
Houston, TX 77058-3696

6. ADMINISTERED BY (If other than item 5)

CODE

APPROVED

JSC PROCUREMENT
OFFICER3-15-06
DATE7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP
Science Applications International Corporation, Technology Services Corp.
10260 Campus Point Drive, San Diego, CA 92121
c/o 2200 Space Park Drive, Suite 200, Houston, TX 77058
Attn: James H. Wendling (281-336-3437)CODE
OT5L

8. DELIVERY

☐

FOB ORIGIN

☒

OTHER

9. DISCOUNT FOR PROMPT PAYMENT

10. SUBMIT INVOICES (4 copies unless other-wise specified) TO THE ADDRESS SHOWN IN:

ITEM 5

11. SHIP TO/MARK FOR

CODE

NASA Johnson Space Center
Building 421 - Transportation Officer
Houston, TX 77058-3696

12. PAYMENT WILL BE MADE BY:

CODE LF231

NASA Johnson Space Center
Accounts Payable Group - Mail Code LF231
Houston, TX 77058-3696

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION

☐

10 U.S.C. 2304(c)

☐

41 U.S.C. 253(c)

14. ACCOUNTING AND APPROPRIATION DATA

15A. ITEM NO.

15B. SUPPLIES/SERVICES

15C. QTY

15D. UNIT

15E. UNIT PRICE

15F. AMOUNT

1

Safety and Mission Assurance Support
Services ContractPhase-In
Base Period
Total\$0
\$148,575,532

15G. TOTAL AMOUNT OF CONTRACT \$ 148,575,532

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CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17 ☒ CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 3 copies to issuing office.)

Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents (s) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

19A. NAME AND TITLE OF SIGNER (Type or print)

Parri Y. Engelsen, VP for Administration

18 ☐ AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number

including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

20A. NAME OF CONTRACTING OFFICER

Craig Burrige, Contracting Officer

19B. NAME OF CONTRACTOR

19C. DATE SIGNED

02/01/06

20B. UNITED STATES OF AMERICA

20C. DATE SIGNED

BY

(Signature of Contracting Officer)

15 March 06

PART I - THE SCHEDULE

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SECTION B – SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

None included by reference

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18) -

None included by reference

B.2 ESTIMATED COST AND AWARD FEE

The estimated cost of this contract is : b4 The provisional increase is b4
 b4 The maximum available award fee is : b4 Total estimated
cost and maximum award fee are : b4

The estimated cost and award fee for this contract is broken out as follows:

Period 5/1/06 – 4/30/10	<u>Estimated Cost</u>	<u>Available Award Fee</u>	<u>Total</u>
Completion Form			
<u>Provisional Increase</u>			
Total Completion Form	<u> b4 </u>		
Level-of-Effort			
<u>Provisional Increase</u>			
Total Level of Effort			
NM Gross Receipts			---
<u>Provisional Increase</u>			
<u>Total NM Gross Receipts</u>			
Period Total			

FFP Phase-In

The pricing of LOE task orders for this contract shall be in accordance with the negotiated and fully burdened average labor rates as shown in Table B-1. The rates should be fully burdened composite of the Team's rates by skill excluding the Prime's Maximum Fee. This rate shall tie to the Contract Rates Section of the Summary Cost Template (SCT) Table for LOE. Note that the bottom of Table B-1 allows for indirect rates applied if applicable to non-labor resources. For example, an application of a material handling rate on materials.

TABLE B-1 – LOE RATES					
Applies Only to SOW 5.0, 6.0, 7.0, 8.0 and 9.0, through September 30, 2010 Effective October 1, 2010 Applies Only to SOW 3.3, 3.7, and SOW 5.0, 6.0, 7.0, 8.0 and 9.0 Composite Rates (Based on the Current Contractor Site, customer Site Rates and Subcontractor Allocations)					
FULLY BURDENED LABOR RATES (Exclusive of Fee)	CY1	CY2	CY3	CY4	CY5
Program Manager	NP	NP	NP	NP	NP
Manager					
Supervisor					
Engineer 1					
Engineer 2					
Engineer 3					
Engineer 4					
Technician 1					
Technician 2					
Technician 3					
Technician 4					
Analyst 1					
Analyst 2					
Analyst 3					
Information Technology 1					
Information Technology 2					
Information Technology 3					
Training Specialist 1					
Training Specialist 2					
Administration 1					
Administration 2					
Secretarial Clerical					
Business Specialist 1					
Business Specialist 2					
Other 1 – Engineering Aide					
Other 2 – Junior Intern					
Other 3 – Engineer 5					
Other 4 – Senior Intern					
Indirect cost (Rate) applied to Non-Labor Resources if required by a Task Order					
1. Other Direct Costs (excluding Equip/Maint)					
2. Equipment and Maintenance					

The below table is hereby deleted and is marked as "reserved."

RESERVED

TABLE B-2 - CF RATES Applies Only to SOW 3.0, 4.0, and 10.0				
FULLY BURDENED LABOR RATES	3.0 Contractor Mgmt Responsibilities (excluding 3.3)	3.3 Panel Support	4.0 Qualificati on	10.0 RITF
Program Manager				
Manager				
Supervisor				
Engineer 1				
Engineer 2				
Engineer 3				
Engineer 4				
Technician 1				
Technician 2				
Technician 3				
Technician 4				
Analyst 1				
Analyst 2				
Analyst 3				
Information Technology 1				
Information Technology 2				
Information Technology 3				
Training Specialist 1				
Training Specialist 2				
Administration 1				
Administration 2				
Secretarial/Clerical				
Business Specialist 1				
Business Specialist 2				
Other				
Prime Overhead (OH) & Service Centers (SC):				
1.				

	Rate			
2.				
	Rate			
3.				
	Rate			
Total OH & SC				
Prime Total G&A Cost				
G&A Base				
G&A Rate				
Indirect cost (Rate) applied to Non-Labor Resources if required by a Task Order:				
Rate 1				
Rate 2				
Not-to-Exceed Fee Rate				

(End of Clause)

B.3 CONTRACT FUNDING (NFS 1852.232-81) (JUN 1990)

- (a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is ~~64~~ This allotment is for Safety and Mission Assurance Support Services Contract (S&MA SSC) and covers the following estimated period of performance: May 1, 2006 through December 29, 2010.
- (b) An additional amount of ~~64~~ is obligated under this contract for payment of fee.

(End of Clause)

B.4 LEVEL-OF-EFFORT

- (a) During the term of the contract, the Contractor is obligated to provide not less than 95 percent nor more than 105 percent of 3,332,190 total direct labor hours through April 30, 2011.
- (b) "Direct labor hours" are those productive hours expended by Contractor personnel, including subcontractors, consultants, and contract labor performing work under this contract that are charged as direct labor under the Contractor's established accounting policy and procedures. The term does not include sick leave, vacation leave, or any type of administrative leave but does include direct labor hours provided under level-of-effort subcontracts. Hours used for clerical and secretarial are specifically excluded from the level-of-effort hours specified herein.
- (c) Once the maximum number of direct labor hours is reached or the contract term has ended, the Contractor's requirements under the contract are fulfilled, even though the specified work may not have been completed. The Contractor is not authorized to exceed the maximum of the direct labor hours specified in paragraph (a) unless a bilateral contract modification is executed. Any estimated cost and fee (s) adjustments for any additional direct labor hours shall be based solely upon the quantity of additional hours being added to the maximum number of direct labor hours specified in this clause.
- (d) The fee, if any, is based upon the furnishing of at least the specified minimum number of direct labor hours, including subcontract hours. If the Contractor provides less than specified minimum number of hours prior to expiration of the contract term, and the Government has not invoked its rights under the Termination clause of this contract to adjust the contract for such reduced effort, the Contracting Officer may unilaterally make an equitable downward adjustment to the contract fee. The downward adjustment in fee will be based upon the difference between the minimum direct labor hours specified under this clause and the amount of direct labor hours provided by the Contractor. Prior to making such an adjustment, the Contracting Officer will request the Contractor provide a written discussion of any extenuating circumstances (e.g., productivity improvements or reductions in contract

scope), which contributed to the under run. Any information provided by the Contractor will be considered by the Contracting Officer in determining the amount of the downward adjustment in fee.

(End of Clause)

[END OF SECTION]

SECTION C

DESCRIPTION/SPECIFICATION/WORK STATEMENT

C.1 STATEMENT OF WORK

The Contractor shall furnish all resources and facilities necessary for the performance of this Statement of Work (SOW), except for those items specifically identified as Government-furnished or installation-provided. The resources and facilities include personnel, materials, supplies, and equipment.

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1.0 INTRODUCTION AND BACKGROUND

- 1.1 The effort described by this SOW provides for the assurance, engineering, and risk assessment in the disciplines of safety, reliability, maintainability, supportability, availability and quality within the Johnson Space Center (JSC) and outside JSC, both domestic and abroad.
- 1.2 This contract provides for continuity of services to the NASA JSC Safety and Mission Assurance (S&MA) Directorate in the areas of safety, reliability, maintainability, and quality. The Government maintains responsibility for S&MA policies and decisions. The Contractor shall provide services and products that accomplish those policies and decisions as defined in this SOW.
- 1.3 This effort includes the review of work done by other contractors, International Space Station (ISS) Program International Partners (IPs), and other National Aeronautics and Space Administration (NASA) organizations. In addition, this SOW applies to future Programs and Projects as directed by NASA task order.
- 1.4 The major part of this work is located at JSC in Houston, Texas. However, resident support is required at JSC field offices at White Sands Test Facility (WSTF), New Mexico; Kennedy Space Center (KSC), Florida; and Huntington Beach, California. Contractor services shall be required at other locations, NASA contractor, subcontractor, or vendor facilities as requirements warrant.
- 1.5 Functions and tasks described herein shall not be construed as implying that the Contractor has the authority to approve or disapprove Government policies, procedures, specifications, or requirements or those of any other Government contractor. Nor will language herein be construed to mean that the Contractor has the authority to accept or reject on the Government's behalf any products or services. The Contractor's functions shall require presentation of its analysis to the appropriate Government official for further action. The Contractor is not authorized to act as an agent of the Government or to represent itself as such. Specific exceptions to this approval restriction will be directed by the Government in writing on a case-by-case basis.

2.0 GENERAL

The fundamental requirements for the work described in this SOW are based on NASA safety, reliability, maintainability, and quality policies, and Program and Project specific requirements. The work performed under this contract shall conform to the JSC processes.

2.1 Work Authorization

2.1.1 Work under paragraphs **3.1 PROGRAM MANAGEMENT, 3.2 COST AND SCHEDULE, 3.4 QUALITY MANAGEMENT, 3.5 PROPERTY MANAGEMENT, 3.6 SAFETY AND HEALTH, 4.0 S&MA PERSONNEL QUALIFICATION PROGRAM, and 10.0 RECEIVING INSPECTION TEST FACILITY (RITF)** shall be performed as a completion form based effort.

2.1.2 All remaining paragraphs of the SOW shall be performed as Level-of-Effort (LOE). Work to accomplish LOE tasks shall be performed only through the issuance of task orders to the Contractor.

2.2 Data Requirements

2.2.1 The Data Requirements List (DRL) and the Data Requirements Descriptions (DRDs), found in Section J, are part of this SOW.

2.2.2 In addition to the data deliverables described in Section J, the Contractor shall manage all documentation and data produced in performance of this contract (e.g., assessments, evaluations, reports, presentations, reviews, and statuses) in accordance with the requirements of SOW Section 3.7 Information Technology (IT).

2.3 Reference

See Section J for applicable documents, definition of terms, and acronyms used in this SOW.

3.0 CONTRACTOR MANAGEMENT RESPONSIBILITIES (Completion Form and Level of Effort)

The Contractor shall manage and administer all contract activity. The Contractor shall provide and maintain management interfaces to the S&MA Directorate, Contracting Officer (CO), Contracting Officer Technical Representative (COTR), and Technical Management. The Contractor shall report formally as required in the contract, and shall respond to JSC S&MA Management queries related to contracted activities.

3.1 Program Management

- 3.1.1 The Contractor shall develop and implement management functions to ensure that all contracted activities are accomplished in accordance with contract terms and conditions. The contractor shall accomplish these management functions through management approach, organization, and controls that are determined by the contractor to be optimum. The contractor shall provide and maintain management systems for the planning, organization, control, and reporting of all activities required by this contract. These systems shall assure accomplishment of program technical and schedule requirements, and cost objectives.
- 3.1.2 The Contractor shall integrate all tasks and elements of the contract to facilitate cross department communications, common processes and tools across appropriate support areas, effective measurement of performance, and identification of initiatives to improve overall safety or mission assurance for human spaceflight.
- 3.1.3 The Contractor shall perform in accordance with the Management Plan (DRD 01). The Contractor shall determine and document lessons learned in the performance of tasks under this SOW in accordance with DRD 02, Lessons Learned.
- 3.1.4 The Contractor shall provide Integrated Technical Management Reports in accordance with DRD 03, Integrated Technical Management Report.

Performance Standards - Program Management:

- 1. 90% of employees trained to do the job they are working on based on established and approved qualification standards and training plans.
- 2. Customer Satisfaction - Performance of all technical areas (resources, skills, and materials) receive an overall minimum rating of "good."
- 3. 100% of Contract Data Deliverables delivered on time.

3.2 Cost and Schedule

The Contractor shall establish a Work Breakdown Structure (WBS) in accordance with DRD 04, Work Breakdown Structure, to serve as the framework for contract planning, budgeting, cost reporting and schedule status reporting. The Contractor shall report accrued costs to NASA in accordance with DRD 05, Contractor Financial Management Report. The Contractor shall present the Integrated Technical Management Reports (DRD 03) and discuss costs, cost variances, technical status, and schedules during status meetings with the CO, COTR, and S&MA management.

Performance Standard - Cost and Schedule:

1. Customer Satisfaction –Technical Management Reports provide timely and necessary insight regarding Contractor activities, progress, accomplishments, and any documented contract performance problems with their corresponding resolutions and corrective actions.

3.3 JSC Program Safety and Mission Assurance (S&MA) (Level-of-Effort)

- a. The JSC Program S&MA Panels, chaired by civil servants, are responsible for ensuring that all applicable S&MA-related requirements are incorporated into JSC Projects and Programs. The Contractor shall perform tasks that assist the Panel Chairs in the execution of their responsibilities. Contractor participation shall be required prior to and during the S&MA Panels in order to effectively accomplish the tasks identified below. Note that individual S&MA Panels require different suites of tasks in order to sustain their function and scope depending on agreements between the JSC S&MA Directorate and the Programs.
- b. Primary objectives of tasks performed by the Contractor are to assist the Panel Chair to verify that the interpretation and implementation of safety-related requirements are consistent with NASA issuance, and assure that safety-critical subsystems, payloads, and operations are appropriately verified. In order to accomplish these objectives, the Contractor shall recommend requirement implementations, evaluate implementation documents and waiver requests, negotiate resolution of safety issues, assist the Programs and Projects with interpretation, and assist with the integration of safety processes across Programs, Projects, contractors, and International Partners.
- c. The JSC Program S&MA Panels that the JSC S&MA Directorate support, include but are not limited to:
 - ISS Flight Safety Review Panel (SRP)
 - JSC Safety Engineer Review Panel (JSERP)
 - Integration Safety Engineering Review Panel (ISERP)
 - SSP/ISS Payload Safety Review Panel (PSRP)

- Government-Furnished Equipment (GFE) Safety and Mission Assurance Review Team (SMART)
- ISS Quality & Product Assurance Panel (QPAP)
- ISS Reliability and Maintainability (R&M) Panel

3.3.1 Administrative Tasks

The Contractor shall perform the following tasks to coordinate and document Panel activities:

- a. Schedule S&MA Panel meetings and reserve meeting facilities.
- b. Develop and post S&MA Panel meeting agendas.
- c. Develop and post S&MA Panel meeting minutes – narrative or dispositional as request by the panel chair.
- d. Develop and maintain S&MA Panel distribution lists.
- e. Develop and maintain processes to track and provide current status of S&MA Panel actions and issues.
- f. Develop and maintain S&MA Panel databases to ensure availability, completeness, accuracy, and security of the data.
- g. Develop and maintain S&MA Panel websites to provide NASA access to meeting documentation.
- h. Develop and maintain data management processes for S&MA data [e.g., Safety Data Packages (SDPs), Hazard Reports (HRs), Failure Modes and Effects Analysis / Critical Items Lists (FMEA/CILs), Non-Conformance Reports (NCRs)] to ensure that the data is received, distributed, filed, archived, and made available to the panel and reviewers.
- i. Develop and maintain a process to ensure that export control regulations (reference NPD 2190.1, NASA Export Control Program Policy) are applied to data handled by the S&MA Panels and that appropriate restrictions are applied to applicable NASA data and/or information distributions.
- j. Upload or input safety data into non-S&MA databases [e.g., Vehicle Master Database (VMDB)] that are maintained by the Programs to provide single data source for related system information required by the Programs.

Performance Standards - S&MA Panel Administrative Tasks:
See Section J.5 AWARD FEE PLAN.

3.3.2 Technical Tasks

The Contractor shall perform the following tasks:

- a. Provide technical interpretation of safety requirements and implementation strategies based on technical merit for acceptability and recommendations on S&MA Panel review and acceptance.
- b. Develop narratives and presentation products for all items and topics submitted to S&MA Panels.
- c. Provide written technical recommendations for safety products (e.g., SDPs, HRs, FMEA/CILs, NCRs) that are submitted to the S&MA Panels for approval or resolution.
- d. Perform launch vehicle manifest assessments to identify unresolved safety and certification issues and provide recommendations on resolution.
- e. Perform integration analyses for HRs, SDPs, and FMEA/CILs to verify that all hazards identified have been analyzed, tested, or controlled.
- f. Perform assessments of verification data [e.g., Verification Closure Notices / Verification Tracking Logs (VCN/VTLS)] for evidence of requirements compliance (e.g., verification mapping to HRs).
- g. Perform and document reassessments of safety requirements/certifications to ensure the validity of the requirements/certifications for the next mission and planned flight.
- h. Evaluate modifications to systems and payloads that affect critical systems or create a potential hazard and provide results to the appropriate panels.
- i. Develop Safety of Flight Certification Letters for S&MA Panel approval.
- j. Maintain cognizance of flight safety status to identify and address safety issues in various technical and safety forums.
- k. Provide technical coordination with other NASA Centers, Contractors, Programs, Projects, and International Partners / Participants (IP/P) S&MA organizations to facilitate a clear and consistent understanding of topics, issues, and actions.
- l. Provide technical expertise to the various S&MA Panel working groups (e.g., Joint American-Russian Safety Working Group (JARSWG), Safety Working Group (SWG), and Quality Working Group (QWG)) for investigation, analysis, and proposed resolutions to issues/actions.

Performance Standard – S&MA Panels Technical Tasks:
See Section J.5 AWARD FEE PLAN.

3.4 Quality Management System

- 3.4.1 The Contractor shall establish and maintain an internal Quality Management System (QMS) for services and tasks performed under this SOW. The Contractor's QMS shall comply with the ANSI/ISO/ASQ Q9001-2000, Quality Management System Requirements, and JPD 5335.1, JSC Policy Directive - Quality Policy. The Contractor's QMS will be audited by NASA or a NASA-provided third party to confirm compliance. The Contractor shall comply with the JSC QMS for the products and services provided to the Government under this contract. The Contractor shall provide a Quality Manual per DRD 06, Quality Manual, and supporting metrics per DRD 07, Contractor Quality Metrics, including the assessment and implementation of internal continuous improvement initiatives in order to provide better products and services to S&MA customers.
- 3.4.2 Should the Contractor be or become International Standards Organization (ISO) Certified, copies of the certification audit report and correspondence confirming certification shall be supplied to the CO.
- 3.4.3 The Contractor shall provide technical and engineering products to S&MA Directorate QMS activities that include:
 - a. Conducting assessments and assisting in S&MA QMS continuous improvements efforts.
 - b. Preparing system level procedures and detailed work instructions of S&MA processes for JSC approval.
 - c. Training for S&MA personnel (both Government and Contractor).
 - d. Generation, periodic review, and maintenance of all S&MA work instructions.

Performance Standards - Quality Management System:

- 1. No major findings during Center ISO audits.
- 2. Effective ongoing demonstration by the Contractor of quality performance and defect prevention.
- 3. Quality Metrics – Positive trending on metrics that indicate Contractor's QMS is effective.

4. Customer Satisfaction – Contractor support to S&MA Directorate QMS activities receive an overall minimum rating of “good.”

3.5 Property Management

The Contractor shall develop and implement a Property Management Plan in accordance with DRD 08, Property Management Plan. The Contractor shall perform on-site property management and administration of all property acquired by or in possession of the Contractor and subcontractors associated with the execution of this contract in accordance with contract terms and conditions.

Performance Standards - Property Management:

1. 100% of Property Reports submitted on time.
2. Minimum of 98% of accountable property accounted for.

3.6 Safety and Health

The Contractor shall ensure the protection of personnel, property, equipment, and the environment by complying with NASA policies and requirements (see Section J, Applicable Documents, Safety and Environment Health subsection) and federal, state, and local regulations for safety, health, environmental protection, and fire protection. The Contractor shall develop and implement a Safety and Health Plan in accordance with DRD 09, Safety and Health Plan. Health and safety reporting requirements shall include an annual Safety and Health Program Self-Evaluation, and Monthly Safety and Health Metrics Report in accordance with DRD 10, Safety and Health Program Self Evaluation and DRD 11, Monthly Safety and Health Metrics.

Performance Standards - Safety and Health:

1. 100% of required reports and metrics delivered on schedule.
2. Injury/illness rates below industry average.
3. Participation in or accomplishment of at least two Safety Leadership / Safety Risk Mitigation activities per Award Fee Period.

3.7 Information Technology (IT) (Level of Effort)

- 3.7.1 The Contractor shall provide Information Technology (IT) products and services to the JSC S&MA Directorate in accordance with JPD

2800.1, JSC IT Program, and JPD 2800.4, JSC IT Program Management. These products and services consist of tools, data systems, and web-sites that support S&MA activities.

- 3.7.2 The Contractor shall establish and maintain an IT Plan in accordance with DRD 12, Information Technology Plan.
- 3.7.3 The Contractor shall implement and maintain configuration control of hardware, software, and existing data systems per the approved IT Plan.
- 3.7.4 The Contractor shall establish and implement Data Management Plan per DRD 13, Data Management Plan. The Data Management Plan shall describe the management, preparation, control, and dissemination of data and documentation required and produced under this contract in order to provide NASA with direct, on-going access to all data and documentation required to accomplish S&MA responsibilities. The plan shall include an assessment of existing S&MA data and documents, methods for identifying and acquiring Safety, Reliability, and Quality Assurance (SR&QA) data and documents, requirements for storage, equipment and methods of accessing data and documents, and data management philosophy. All documents and data produced in performance of this contract shall be organized, controlled, and stored on NASA IT equipment.
- 3.7.5 The Contractor shall prepare and provide user instructions and training to S&MA personnel on the use of hardware, software, and data systems used by the organization to accomplish its responsibilities, tasks, and activities.
- 3.7.6 The Contractor shall acquire or develop and maintain analytical tools and databases to augment or accomplish work defined in this SOW and the accomplishment of the S&MA Directorate mission. The Contractor shall maintain existing tools, databases, and websites as well as those developed in performance of this contract utilizing software and applications recognized as JSC standards. Proprietary or non-JSC-standard applications, protocols, or IT systems shall not be utilized without prior NASA contractual authorization.
- 3.7.7 The Contractor shall administer the S&MA laptop computer loan pool and maintain information on the use of the laptops which includes a tracking log (user and due date). The Contractor shall check out current copies of software available for home use as provided by the Information Resources Directorate (IRD). The Contractor shall maintain and assure the accuracy of the Customer Service System (CSS) database. The Contractor shall receive all requirements for new IT or telephone equipment and for moves of existing equipment. The Contractor shall write all Service Requests (SRs) required to obtain or move the IT or telephone equipment.

The Contractor shall also write or assist in writing all SRs within the S&MA Directorate.

- 3.7.8 The Contractor shall participate in the JSC IRD led Information Technology Steering Council (ITSC) and Customer Forum meetings for the purpose of coordinating planned IT activities that affect JSC systems, and sharing information on current IT topics that affect S&MA systems. The ITSC, established under the authority of JPD 2800.4, JSC IT Program Management, acts as the Center IT Program control board. For planning purposes, the ITSC meets twice monthly and the Customer Forum meets approximately monthly. The Contractor shall provide technical expertise at IRD boards and meetings, such as the Network Access Control Board (NACP) which typically meets once each week for one to three hours.

Performance Standards - Information Technology:
See Section J.5 AWARD FEE PLAN.

4.0 S&MA PERSONNEL QUALIFICATION PROGRAM (Completion Form)

- 4.1 The S&MA Contractor shall develop, implement, and maintain a comprehensive S&MA Personnel Qualification Program, in accordance with DRD 14, S&MA Personnel Qualification Program Plan, to include management of an existing training database. This Program shall provide training to qualify S&MA personnel for the positions they are assigned. The Contractor shall develop and maintain a plan for the administrative tasks that support this Program.
- 4.2 The specific skills of Certified Welding Inspector (CWI), all levels of Non-Destructive Evaluation (NDE), Pressure Systems, and ISO Quality Systems Auditor require formal certification. The S&MA Contractor shall arrange for the required 3rd party (Accredited Organizations or Educational Institutions) certification training and develop courses and curriculum as needed for the Personnel Qualification Program.

Other skills such as listed below will be exempt from the certification requirement. But, it will be the responsibility of the contractor to provide sufficient information that the individual has the training, education and the background to effectively perform in these skills.

- Mechanical Inspector
- Calibration Technician
- Safety Engineer
- Reliability Engineer
- Quality Auditor

- Quality Technician
- Quality Engineer
- Quality Manager
- Software Quality Engineer

Performance Standards - S&MA Personnel Qualification Program:

1. 100% of periodic reports submitted on schedule.
2. 100% employees with up to date training plans.
3. Customer Satisfaction – Course attendees opinion surveys indicate satisfaction with course content and level of detail.

5.0 PROGRAM SUPPORT

- a. The Contractor shall provide services and products for Program S&MA engineering tasks. Services and products consist of assisting in the development of Program requirements, performing analyses, assessments, audits, reviews, and evaluations; preparing and presenting reports and briefings; and participating in meetings and review boards and panels. The Contractor shall verify that Program design and operations meet S&MA requirements and identify issues and non-conformances. The Contractor shall evaluate the design, manufacturing, testing, and refurbishment of spaceflight hardware and software to ensure delivery of products in accordance with functional, performance, and design requirements. The Contractor shall perform S&MA activities throughout the Program life-cycle as described in this section in order to assure systems meet requirements. Life-cycle phases may overlap and tasks may be worked or revisited in more than one phase.
- b. The Contractor shall provide engineering assessments for software intensive ground systems residing at JSC that support the design, development, and test of flight systems. The Contractor shall also provide engineering assessments for JSC facility software.
- c. The Contractor shall identify and assess risks to Programs consistent with Program risk management plans. This includes the identification and evaluation of risks, reporting of risks, tracking the resolution of identified risks, and the development and evaluation of proposed risk mitigation strategies throughout the Program life-cycle.
- d. The Contractor shall develop and review human factors considerations for each phase of the Programs' life-cycle. The Contractor shall assess the effectiveness of mitigations for human factors related hazards.
- e. The Contractor shall integrate and coordinate S&MA products and services across Programs that are relevant to multiple Programs or Projects.

5.1 Concepts and Requirements Phase

This phase includes Program feasibility assessments, Program definition and approval, and requirements definition and approval. The Contractor shall develop and review Program requirements documents to ensure that S&MA requirements are included. The task includes assisting in the development of top-level Program policies and requirements, research to define and develop workmanship standards and specifications, the development of software assurance guides and standards, and the development of implementation plans, processes and work instructions. The Contractor shall assess software and hardware assurance plans, quality plans, safety plans, procedures, processes, and reports for compliance with NASA and JSC policies, procedures and standards.

5.1.1 Safety, Reliability, and Maintainability Goals and Requirements

The Contractor shall assist in developing and refining safety goals and requirements such as overall probability of a catastrophic event, probability of a catastrophic event during launch/boost phase requiring separation/abort, probability of a catastrophic event during other mission phases (e.g., on-orbit, Extravehicular Activity (EVA), rendezvous and docking, reentry and landing), or probability of a specific catastrophic event (e.g., fire, loss of a specific system or sub-system). These requirements shall meet or exceed the standards set forth in the NASA-STD-8729.1, Planning, Developing, and Maintaining an Effective Reliability and Maintainability (R&M) Program. The Contractor shall also assist in developing and refining reliability goals and requirements, such as availability, maintainability, and Mean-Time Between Failure (MTBF). Once developed, these goals and requirements will be used to establish Program safety requirements such as redundancy, fault tolerance, Micro-Meteoroid and Orbital Debris (MMOD) protection, and launch abort capabilities.

5.1.2 Quality Assurance Goals and Requirements

The Contractor shall assist in developing and refining quality assurance goals and requirements. The Contractor shall participate in the preparation, review, and assurance of proper implementation of procedures, processes, inspection planning, and quality assurance requirements.

5.1.3 Requirements Reviews

The Contractor shall support formal Program Requirements Reviews to ensure that S&MA principles and practices are incorporated into Program policies and requirements. The Contractor shall coordinate and document all proposed inputs on formal documents such as Review Item Discrepancies (RIDs), and track and ensure proper closure of RIDs that impact S&MA.

5.1.4 Trade Studies

The Contractor shall perform and support trade studies to assist JSC S&MA in assuring that risk-based decision making processes are used to select among competing design and operational concepts, in order to minimize technical and Program risk, and meet S&MA goals and requirements.

5.1.5 Feasibility Assessments

The Contractor shall participate in feasibility assessments to ensure that Program design and operational concepts are achievable and meet S&MA requirements.

5.1.6 Technical Assessments

The Contractor shall perform qualitative and quantitative assessments. The technical subjects are determined real-time and require the Contractor to develop or perform analyses such as, reliability, Probabilistic Risk Assessment (PRA), fault-tree analysis, trend analysis, statistical analysis, or engineering analysis.

5.2 Design and Development Phase

This phase includes preliminary and detailed design, and system design validation. Design validation is generally accomplished through a combination of test, analysis, and inspection of a flight-like unit to prove the design meets the requirements.

5.2.1 Program Design Milestone Reviews

5.2.1.1 The Contractor shall perform S&MA evaluations of proposed designs to ensure compliance with Program S&MA requirements, to identify areas where design modifications could reduce or eliminate risk, and to identify areas of non-compliance. The Contractor shall also ensure that S&MA products (such as safety assessment reports, failure modes and effects analyses, and critical items lists) required to be delivered in support of each milestone have been provided. The Contractor shall document any findings, comments, or recommendations, and shall track the closure of all items that impact S&MA.

5.2.1.2 The Contractor shall develop S&MA design criteria and requirements; tasks and activities to be performed; and verification and assessment methods. The Contractor shall assess these items when developed by other entities. The Contractor shall provide input in establishing the verification method success criteria for each requirement in the verification plans.

5.2.2 Integrated Teams

Programs form teams to assure that all relevant organizations (such as Engineering, Mission Operations, Space Life Sciences, and S&MA) are properly represented and have an opportunity to interactively discuss Program concepts and requirements. The Contractor shall participate on such teams to ensure that S&MA requirements are met and that S&MA concerns are properly addressed.

5.2.3 Requirements and Design Changes

The Contractor shall assess all change requests for compliance to S&MA requirements and identify areas of risks, non-compliances, and impacts of accepting non-compliances. The Contractor shall continue this support throughout the Program life-cycle.

5.2.4 Safety

5.2.4.1 The Contractor shall ensure the application of a process for the systematic identification and control of hazards during the design phase. The Contractor shall identify the risk inherent in a system's design and operation by quantifying both the likelihood of various possible risk sequences and their consequences, using various tools such as fault trees, event trees, and reliability block diagrams.

5.2.4.2 In performing Safety Analyses, the Contractor shall:

- a. Evaluate Safety Assessment Reports (SARs) and Hazard Reports (HRs) per NSTS 22254, Methodology for Conduct of Space Shuttle Program Hazard Analyses, and SSP 30309, Safety Analysis and Risk Assessment Requirements Document, to ensure the design meets safety requirements.
- b. Evaluate SARs and HRs and all supporting data to identify areas of non-compliance with technical and data submittal requirements.
- c. Perform hazard analyses as required to ensure that the developer has adequately identified hazards and hazard controls.
- d. Assess Hazardous Command Lists (HCLs), Restricted Command Lists (RCLs) and Critical Command Lists (CCLs) to ensure that commands are correctly classified as defined by the ISS Computer Safety Working Group (CSWG).
- e. Ensure that all applicable safety requirements have been identified and met. If requirements have not been met, make recommendations regarding possible corrective actions that should be taken; alternatively, identifying impacts to accepting a noncompliance.
- f. Document and coordinate all comments and recommendations with NASA S&MA personnel, safety panels, the developer, and other NASA technical organizations (e.g., Engineering, Mission Operations, Space Life Sciences).

- g. Track the closure and resolution of all comments and recommendations.

5.2.4.3 As the evaluator of HRs, associated Non-Compliance Reports (NCRs), or Accepted Risk (AR) Hazard Reports, the Contractor shall:

- a. Evaluate all NCR or AR Hazard Report data to ensure completeness. Ensure that all applicable safety requirements have been properly identified.
- b. Determine whether rationale is sufficient to recommend approval of the NCR or AR Hazard Report. Perform risk trades to determine whether more risk is accepted by approving or denying the NCR or AR Hazard Report.
- c. Evaluate associated S&MA data, such as Critical Items Lists (CILs) and problem reports.
- d. Assess that the NCR or AR Hazard Report will not add unacceptable risk to a system or procedure.
- e. Make a formal recommendation to the Program regarding the acceptance of the NCR or AR Hazard Report. Define alternative approaches to risk mitigation.
- f. Verify the appropriate disposition of all NCRs or AR Hazard Reports.

5.2.5 Reliability and Maintainability

- a. The Contractor shall predict system or function reliability, maintainability, and availability characteristics (e.g., failure rates and probabilities or availability rates) based on available design, analysis, or data. The predictions shall be provided to the Programs for logistical planning.
- b. The Contractor shall make use of reliability modeling and simulation tools to evaluate system design. The results of this evaluation along with recommendations associated with the system design shall be provided to NASA.
- c. In evaluating the Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL), the Contractor shall:
 - 1. Evaluate FMEA/CIL and all supporting data per SSP 30234, Instructions for Preparation of Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL) for

Space Station, and NSTS 22206, Instructions for Preparation of Failure Modes and Effects Analysis and Critical Items List, to identify areas of noncompliance with technical and data submittal requirements.

2. Document and coordinate all comments and recommendations with NASA S&MA personnel, Reliability and Maintainability (R&M) panel, the developer, and other NASA technical organizations (e.g., Engineering, Mission Operations, Space Life Sciences). Track the acceptable closure and resolution of all comments and recommendations.
 3. Brief panel chairmen before reviews on the evaluation results. Identify areas of concern and issues raised during the review. Identify FMEA/CILs that may be dispositioned by the chairman before the meeting, and identify FMEA/CILs requiring the support of particular specialists, or that require separate meetings. Identify actions that will be required and propose an agenda for the review.
 4. Support the panel as they conduct their review.
- d. The Contractor shall analyze system and component failure modes identifying 'scheduled' or 'on-condition' tasks, as well as maintenance frequency required at assigned maintenance levels.
 - e. The Contractor shall review maintenance and repair plans to verify:
 1. Proposed procedures meet safety requirements.
 2. Proper priority has been assigned to maintenance activities.
 3. Maintenance intervals support the availability of safety-critical equipment.
 4. Hardware taken out of service for maintenance will not compromise system safety.
 5. Consistency with sound maintenance and repair practices
 - f. The Contractor shall analyze the functions of Mechanical and Electrical, Electronic, and Electromechanical (EEE) Parts for consistency with intended design rules to ensure reliable operation under expected environments. The Contractor shall recommend parts that operate in the most effective, reliable, and cost-efficient manner for the planned application.

- g. The Contractor shall assist in the development of certification plans, including the definition of all usage environments.
- h. The Contractor shall analyze items designated as having a limited useful life. The analysis shall include shelf life, operating life, and life expended during testing.

5.2.6 Quality Assurance

The Contractor shall assist in defining and reviewing quality management systems and quality assurance plans and processes. The Contractor shall verify that designs meet quality requirements.

- a. The Contractor shall perform Procurement Quality Assurance (PQA) by conducting Program supplier evaluations, conducting quality management system audits at Program prime contractor facilities, drafting Letters of Delegation (LODs) for Government approval, and defining quality requirements for Program contractor and subcontractor purchases in accordance with NPR 8735.2, Management of Government Safety and Mission Assurance Surveillance Functions for NASA Contracts.
- b. The Contractor shall provide facility assessments which include product and process surveillance and software assurance support for ground simulators, mission control centers, development integration laboratories, and integrated training facilities. Current facilities supported are the Shuttle Avionics and Integration Laboratory (SAIL), Sonny Carter Training Facility (SCTF), JSC Avionics Engineering Laboratory (JAEL), Instrumentation Systems Laboratory (ISL). Other facilities shall be included as they are established by new Programs.
- c. The Contractor shall provide JSC with facility integration software safety analysis technologies and methodologies expertise. This includes the development of software tools to aid in software safety analyses. Software safety analysis tools shall be in accordance with NASA-STD-8719.13, NASA Software Safety Standard.

5.3 Manufacturing, Test, Acceptance, and Delivery Phase

5.3.1 Quality Assurance

The Contractor shall perform inspection and surveillance activities during production, testing, and operations to reduce the overall risk to cost, schedule, and mission success. The Contractor shall provide inspectors that are trained in quality assurance and engineering methods for assembly, testing, inspection, and surveillance.

5.3.2 Non-Conformance Reports (NCRs) and Waivers

The Contractor shall analyze non-conformances and waivers per NSTS 08126, Space Shuttle Problem Reporting and Corrective Action (PRACA) System Requirements, SSP 30223, Problem Reporting and Corrective Action for the Space Station, and SSP 30524, PRACA Data System Requirements Definition Document. The Contractor shall participate in Problem Resolution Teams (PRTs) to analyze non-conformances, determine root cause and recommend corrective actions to prevent recurrence. The Contractor shall communicate across Programs and Projects to assure that S&MA has an integrated and coordinated position.

5.3.3 Software Verification and Validation

The Contractor shall support software code walkthroughs, review test plans, procedures, and test results to verify that the software meets safety and quality requirements. The Contractor shall ensure adequate testing coverage based on the changes made to the software code.

5.3.4 Certification

The Contractor shall verify the as-built system meets all applicable certification requirements. The Contractor shall verify that the hardware will function properly in all applicable use environments. The Contractor shall document the certification and maintain certification records as required.

5.3.5 Test Support

The Contractor shall support Test Readiness Reviews (TRRs) and observe testing conducted on Program flight hardware, software, and equipment to ensure that Program S&MA requirements for the flight items are being appropriately tested and documented. The Contractor shall ensure that test procedures are complete and meet Program system requirements. The Contractor shall ensure that test plans support test objectives. The Contractor shall review test articles and assess readiness to perform testing. The Contractor shall review system test results to ensure that test objectives have been demonstrated and meet system certification requirements.

5.3.6 Inspection Requirements

The Contractor shall identify characteristics requiring independent verification, establish sampling plans, identify special process inspection needs [e.g., Non-Destructive Evaluation (NDE)], and verify implementation of FMEA screens and hazard control verifications.

5.3.7 Manufacturing and Fabrication Plans and Processes

The Contractor shall ensure work authorizing documents, drawings, and engineering changes have pass/fail criteria and appropriate tolerances. The Contractor shall ensure documentation is complete and accurate.

5.3.8 Surveillance and Audits

5.3.8.1 The Contractor shall conduct product and process surveillances. The Contractor shall also conduct technical and quality audits. The Contractor shall support the development of audit plans and maintain the Master Audit Schedule for the Programs. Surveillance and audit activities shall be conducted in accordance with NPR 8735.2, Management of Government Safety and Mission Assurance Surveillance Functions for NASA Contracts.

5.3.8.2 The Contractor shall perform special process verification audits identifying areas needing corrective or preventive action (examples include quality management systems, contamination control, welding, brazing, soldering, and conformal coating).

5.3.9 Procurement Quality Assurance (PQA)

5.3.9.1 The Contractor shall assist the Government in assessing quality plans for production controls and in conducting contract surveillance throughout the procurement process in accordance with NPR 8735.2, Management of Government Safety and Mission Assurance Surveillance Functions for NASA Contracts. This includes the review of purchase orders and contracts to:

- a. Verify proper inclusion of quality requirements and supplier qualifications.
- b. Determine if Government source inspection is required.
- c. Determine and recommend quality instructions to be included in the LODs.

5.3.9.2 The Contractor shall assist the Government in performing PQA functions at remote site facilities in support of Program development activities in the following areas:

- a. Assessment of and participation in supplier qualification audits for flight hardware.

- b. Inclusion of necessary quality requirements flow down to suppliers through purchase order and contract review.
- c. Development of Defense Contract Management Association (DCMA) LODs, development of DCMA site-specific Risk Assessment Management Plan (RAMPs), and monitoring of subcontractor performance.
- d. Material review disposition and approval requiring NASA participation.
- e. Manufacturing, assembly, and test operations assessments.
- f. Review of quality requirements at Technical Interchange Meetings (TIMs), Preliminary Design Reviews (PDRs), and Critical Design Reviews (CDRs).

5.4 Operations and Maintenance Phase

The Contractor shall review flight products such as flight rules and crew procedures to identify safety issues, to ensure that operational hazard controls are properly implemented, and to ensure the safety of pre-defined responses to contingency situations.

5.4.1 Mission Planning

- 5.4.1.1 The Contractor shall provide technical expertise in operational meetings such as Flight Techniques Working Groups, Mission Integration and Operations Control Boards, Joint Operations Panels, Flight Operations Reviews, Increment Operations Reviews, and Mission Management Team meetings to ensure that flight products meet safety requirements. Participation includes technical evaluation of items to be presented prior to the meetings.
- 5.4.1.2 The Contractor shall participate in PRTs to analyze non-conformances, determine root cause and corrective actions to prevent recurrence. The Contractor shall communicate across Programs and Projects to ensure that S&MA has an integrated and coordinated position.
- 5.4.1.3 The Contractor shall support mission planning activities to ensure that operational planning does not conflict with safety requirements. Activities include the review of flight objectives, plans, manifests, equipment transfer priorities, and crew activity plans for compliance with requirements.

- 5.4.1.4 The Contractor shall review proposed manifests to ensure the safe continued operation of the on-orbit vehicle, planned maintenance activities, and that transfer priorities support safety requirements. The Contractor shall ensure planned crew activities are properly coordinated and safety related objectives are accomplished in a timely manner.
- 5.4.1.5 The Contractor shall perform mission readiness assessments and prepare briefings per DRD 15, S&MA Prelaunch Assessment Presentations, to support Prelaunch Assessment Reviews (PARs), S&MA Readiness Reviews (SMARRs), Software Readiness Reviews (SRR), EVA Readiness Reviews, Stage Operations Readiness Reviews (SORRs), and Flight Readiness Reviews (FRRs). The Contractor shall provide pre and post-flight assessments and briefings. Readiness review activities shall include review and reporting of:
 - a. Status of S&MA products such as hazard reports, non-compliances, FMEA/CILs, and problem reports.
 - b. Open work, including schedules for completion.
 - c. S&MA issues and risks, flight constraints, or exceptions to flight readiness.
 - d. Status of readiness to provide S&MA operational support, including training and certification of personnel and availability of required supporting data.
 - e. Status of the on-orbit vehicle.
 - f. Status of previously identified anomalies and their resolution.
- 5.4.2 Mission Support
 - 5.4.2.1 The Contractor shall provide real-time S&MA support to the Mission Management Team (MMT) and shall staff the Mission Evaluation Room (MER) to:
 - a. Review requirements changes and waivers.
 - b. Serve as the repository of S&MA data such as hazard reports, noncompliances, FMEA/CILs, Problem Reports, and retrieving such data in support of the evaluation and resolution of in-flight anomalies.
 - c. Provide responses to in-flight hardware and software anomalies to identify any changes in risk resulting from

associated hardware changes or software patches or workarounds.

- d. Resolve questions and providing engineering assessments regarding on-orbit S&MA issues.
- e. Evaluate and provide technical expertise in the resolution of In-Flight Anomalies (IFAs), Mission Action Requests, Flight Rules and Crew Procedure changes.
- f. Provide S&MA representation on Flight Investigation Teams (FITs), and Anomaly Resolution Teams (ARTs) to identify risk impacts.
- g. Develop and assess Fault Trees and Root Cause analyses of anomalies.
- h. Ensure integration of International Partners / Participants (IP/P), Government-Furnished Equipment (GFE), Contractor-Furnished Equipment (CFE), Software, Payload and Visiting Vehicle assessments for MER responses.

5.4.2.2 The Contractor shall support MMT meetings by providing problem investigation support consisting of administrative and technical personnel. As scheduled, technical personnel for Shuttle support shall be on duty 24 hours, 7 days a week (24/7) at the MER Safety Console beginning at tanking and continuing through landing. The administrative personnel shall support 24/7 beginning at launch and continuing through landing. As scheduled, , technical personnel for ISS support shall be on duty 24/7 at the MER Safety Console during high activity periods (e.g. launch, docking, EVA, assembly operations). On weekends and periods of low activity technical personnel shall be on call 24/7. All personnel shall support mission simulations and shall demonstrate knowledge of mission, vehicle, and payload hazard controls and an ability to cope with high stress situations prior to supporting a mission.

5.4.2.3 The MMT support shall ensure that:

- a. S&MA MMT representatives are properly briefed on ongoing investigations, issues, anomalies, and operations.
- b. S&MA positions on Mission Action Requests, IFAs and other in-flight issues are clearly defined and communicated to Program management.
- c. S&MA data are provided in support of MMT

discussions and activities.

- 5.4.2.4 The Contractor shall develop and review Contingency Action Plans (CAPs) to assist in the development of predefined responses to accidents, incidents and mishaps. The Contractor shall assist in developing notification trees, obtaining contact information, defining data to be locked down, and defining how investigation boards will be established and operated, in accordance with SSP 50190, ISS Contingency Action Plan, and NSTS 07700 Volume VIII, Operations, Appendix R.
- 5.4.2.5 The Contractor shall support accident, incident, and mishap investigations in accordance with NPR 8621.1, NASA Procedural Requirements for Mishap Reporting, Investigation, and Recordkeeping. The Contractor shall retrieve and supply relevant S&MA data to investigatory boards. Contractor personnel shall perform analyses, such as the development of fault trees in support of accident investigation activities. The Contractor shall review relevant S&MA data to identify contributing and root causes of the accident, and the Contractor shall assist in the development of preventive and corrective actions to prevent recurrence.
- 5.4.2.6 The Contractor shall maintain the Safety Observation and Variance Assessment Report (SOVAR) database to ensure that real-time changes made to vehicle design and operation which conflict with baselined HRs are identified, reviewed by the appropriate safety panel, and resolved.
- 5.4.2.7 The Contractor shall maintain the S&MA Operations Console Handbook.

6.0 JOHNSON SPACE CENTER (JSC) PROJECTS SUPPORT

- a. This section describes the requirements for S&MA support to hardware and software development Projects managed by JSC in support of major NASA Programs and initiatives. Projects include new, modifications or redesigns of existing items. The Contractor shall provide technical services related to Government-Furnished Equipment (GFE), Payloads, and other hardware, software, and firmware processed on site. The Contractor shall manage and provide NASA access to information on work being performed, products produced, and documentation tracked for other organizations.
- b. The Contractor shall perform S&MA support throughout the Project life-cycle as described in this section in order to ensure systems meet requirements. Life-cycle phases may overlap and tasks may be worked or revisited in more than one phase. Support includes engineering services and the use of technical experts in the areas of design, development, fabrication, test and integration, and performance and evaluation of S&MA analyses.
- c. Specific requirements for life-cycle support, project management processes and products for the definition, planning and implementation of GFE Flight Development Projects are defined in EA-WI-023, Project Management for GFE Flight Projects.
- d. The Contractor shall develop or assess documentation including but not limited to:
 - 1. Program plans
 - 2. system hazard analyses
 - 3. safety trade studies
 - 4. design drawings
 - 5. interface control drawings and documents
 - 6. failure modes and effects analyses and critical items lists
 - 7. system qualification and certification plans
 - 8. EEE parts usage
 - 9. manufacturing plans and processes
 - 10. configuration control plans and procedures
 - 11. software development folders
 - 12. test plans and procedures

13. inspection requirements
 14. work authorizing documentation
- e. The following outlines the life-cycle roles of personnel. Specific skills and proven capabilities are required for each role.
1. Safety and Reliability personnel assist the Government in determining the S&MA requirements for the project
 2. Quality Engineering personnel assist the Government in establishing the design and workmanship requirements
 3. PQA personnel assist in ensuring that S&MA requirements are included in contracts
 4. Quality Assurance personnel witness and verify inspections and tests
 5. Safety and Quality personnel provide products to aid in the certification of the equipment for flight.
 6. Safety and Reliability personnel verify controls are in place for operations
 7. Safety, Quality, and Test Engineers investigate anomalies, quality escapes, and perform failure analysis
 8. Data Management personnel provide proper configuration management of records
- f. The Contractor shall document activities and rationales for decisions to provide traceability, and shall prepare and present status of actions and activities in periodic meetings such as weekly staff and monthly status per DRD 16, Activity Reports and quarterly technical reviews with the Programs.
- g. The Contractor shall provide engineering and technical expertise to process improvement, incident review, mishap investigation teams, and boards where S&MA related topics are addressed. Activities include evaluation of flight readiness, certification record generation and management, and participation in forums including design reviews and Program Boards and Panels.

6.1 Software Assurance

The Contractor shall provide quality engineering services for software intensive ground systems residing at JSC that support the design, development, and test of flight systems. The Contractor shall provide quality engineering services for JSC facility software. This effort requires expertise in both hardware and software engineering as well as expertise in

the assurance disciplines of safety, reliability, maintainability and quality. The Contractor shall:

- a. Provide software assurance support for the SAIL, SCTF, JAEL, ISL, ground simulators, mission control centers, and integrated training facilities.
- b. Assess software assurance plans, quality plans, safety plans, procedures, processes, and reports for compliance to NASA and JSC policies and standards (Section J, Applicable Documents, Software Requirements and Policies subsection).
- c. Support the preparation, review, and assurance of proper implementation of procedures, processes, inspection planning, and quality assurance requirements for JSC ground software.
- d. Provide JSC with facility software safety analysis technologies and methodologies expertise.
- e. Develop software tools, methodologies and techniques to support facility software safety analyses.

6.2 Concept and Requirements

This phase includes Project feasibility assessment, Project requirements definition and approval.

6.2.1 Feasibility Assessments

The Contractor shall assist with feasibility assessments by providing input in areas such as constraints, technical validity, facility capability, schedule and other associated risks.

6.2.2 Procurement Quality Assurance (PQA)

- 6.2.2.1 The Contractor shall assist in the review of proposed quality provisions and clauses to ensure project procurements are consistent with the Federal Acquisition Regulation (FAR), NASA FAR Supplements (NFS), and JSC Procurement Instruction. The Contractor shall recommend Government Source Inspection (GSI) in accordance with the requirements of FAR 46.402, applicable NASA and the JSC Procurement Instruction, draft Letters of Delegation (LOD), and NPR 8735.2, Management of Government Safety and Mission Assurance Surveillance Functions for NASA Contracts. The Contractor shall submit the GSI recommendations and draft LODs to NASA S&MA for concurrence prior to obtaining Contracting Officer approval.

- 6.2.2.2 The Contractor shall perform safety, reliability, and quality assurance surveillance on selected JSC and contractors' processes to monitor contractor performance to safety, product, and technical requirements. The Contractor shall assist in defining surveillance programs that assure method, manpower, material, equipment, and environment satisfy contract requirements.
- 6.2.2.3 The Contractor shall perform quality assessment audits on vendors and suppliers to determine their manufacturing and testing capability. Audits include process audits to verify specified levels of control by the vendor or supplier on their internal processes, determination of problems or potential problems, identification of corrective and preventive actions, and verification of corrective and preventive action implementation and effectiveness. The Contractor shall perform inspections and monitor clean room laboratory services on-site at JSC and at other local or remote locations to ensure compliance with JPR 5322.1, Contamination Control Requirements Manual. Audits and inspections shall be performed during the development and manufacturing phases.
- 6.2.2.4 In order to ensure that safety, reliability, and quality assurance surveillances, audits, and inspection activities are performed in accordance with safety, product and technical requirements, the Contractor shall provide qualified Quality Assurance Specialists (QAS). The QAS shall be pre-qualified with a minimum of 2 years of experience in the quality assurance disciplines with skills encompassing problem solving, analyzing, facilitating, researching, coordinating, articulating, negotiating, communicating, and evaluating issues, concerns and actions relative to meeting S&MA requirements.
- 6.2.2.5 On-The-Job Training of Contractor personnel shall be restricted to acquiring the necessary experience of working within the JSC and S&MA systems and processes and shall not be used to qualify a QAS in the quality assurance disciplines.
- 6.2.3 S&MA Requirements
 - 6.2.3.1 The Contractor shall assist in defining hardware and software S&MA requirements for NASA Projects.
 - 6.2.3.2 The Contractor shall support project requirements reviews and ensure appropriate requirements for intended use, planned environments, and established criticality based on operational use are included in the project requirements documents and Project Management Plans. The

Contractor shall ensure traceability between the system level requirements and the project requirements.

6.3 Design and Development

- a. This phase includes preliminary and detailed design, and system design, verification, and validation. Design validation is generally accomplished through a combination of test, analysis and inspection of a flight-like unit to prove the design meets the requirements. For JSC Projects, primary design reviews during this phase are the Preliminary Design Review (PDR) and the Critical Design Review (CDR) though other reviews may be identified that are specific to the needs of the Project. For payload reliability and maintainability, development phase reviews are held by responsible JSC organizations.
- b. The Contractor shall provide support to all Project design activities, development activities, verification, and validation activities, and technical working groups. This includes the development of milestone schedules, milestone reviews and a list of hardware and software deliverables. The Contractor shall perform in-depth analysis of data and documentation to identify and document problems. Quality engineering and technical services includes preparation of documentation, review of prepared documentation, recommendations for approval of design documentation, EEE parts analysis, approval of drawings for release, verification that software development folders are maintained, attendance and participation in formal reviews, and follow-up activities including responding to actions and review of changes to documentation resulting from review discussions and actions.
- c. The Contractor shall ensure appropriate closure criteria of all issues are identified and verify that action closures have been accomplished. The Contractor shall verify that documentation is maintained under Project established configuration control processes. For software development support activities, the Contractor shall use applicable quality assurance tools such as requirements traceability tools, code map coverage and software complexity studies as part of their evaluations.

6.3.1 Projects

- 6.3.1.1 The Contractor shall perform and evaluate assessments of the design and identify areas of risk. Examples of products utilized for assessment and analysis are:

1. FMEAs and CILs developed to the requirements of NSTS 22206, Instructions for Preparation of Failure Modes and Effects Analysis and Critical Items Lists, and SSP 30234, Instructions for Preparation of Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL) for Space Station.

2. HRs developed and processed to the requirements of NSTS 22254, Methodology for Conduct of Space Shuttle Program Hazard Analyses, SSP 50021, Safety Requirements Document, SSP 30309, Safety Analysis and Risk Assessment Requirements Document, SSP 50146 (Attachment D), NASA/RSA Bilateral S&MA Processes, JSC 17773, Instruction for Preparation of Hazard Analysis for JSC Ground Operations, KHB 1700.7, Space Shuttle Payload Ground Safety Handbook, and KHB 1710.2, KSC Safety Practices Handbook, to identify hazards associated with the ground processing and operational use of the hardware and software, define controls for those hazards, and verify implementation of the hazard controls.
 3. Fault Tree Analyses to identify critical hardware, software, and procedural failure paths.
 4. Statistical or probabilistic analyses to support reliability assessments.
 5. Sneak circuit analyses to identify latent circuit conditions, design concerns, and drawing errors.
 6. Test and analysis of high risk candidate EEE and mechanical parts.
- 6.3.1.2 Other products or analysis techniques shall be utilized or developed by the Contractor as necessary to meet specific requirements and to assess functions/complexity of the hardware and software items.
- 6.3.1.3 The Contractor shall review technical documents, changes to technical documents, and deviations and waivers to ensure inclusion of quality assurance requirements and adequacy of design criteria necessary for procurement, fabrication, inspection, and test operations. The Contractor shall identify areas of noncompliance with technical and data submittal requirements. The Contractor shall ensure hazards are identified and controlled, and verify implementation of the hazard controls. Hazards may be associated with ground processing and operational use of the hardware and software during all phases of flight (installation, launch, on-orbit usage, stowing and destowing, landing, post-landing removal and post-mission processing). The Contractor shall ensure the development of inspection and test processes and techniques in accordance with JSC policies and procedures.
- 6.3.1.4 Milestone design reviews such as PDR and CDR are conducted to review and approve documentation

associated with the design phase and provide formal control of the design and development process.

6.3.1.5 For PDR, the Contractor shall evaluate the design based on the following considerations:

- a. Compliance with statement of work, end item specifications, specific design criteria, and other applicable documents.
- b. Compatibility with interface and operational requirements.
- c. Feasibility of proposed schedule.
- d. Consideration of induced and natural environmental criteria.
- e. Requirements for transporting, storing, handling.
- f. Requirements for support equipment.
- g. Inclusion of S&MA requirements.
- h. Adequacy of design to satisfy S&MA-related requirements in the areas of thermal, electrical, materials, mechanical, stress, software, performance, and interface.
- i. Inspectability and testability including traceability to requirements.
- j. Completeness of verification matrix, adequacy of verification methods selected, and appropriateness of success criteria.

6.3.1.6 For CDR the Contractor shall evaluate the design and documentation for:

- a. Detailed environmental, thermal, electrical, and mechanical analyses.
- b. Development test data.
- c. Design decisions and trade-offs.
- d. Requirements which have been added or changed since the PDR.
- e. Parts and materials selections including participation in establishment of parts reliability requirements, parts

specifications and applications, as well as requirements for selection, screening, qualification, derating, handling, destructive physical analysis, failure trending and potential NASA Advisories and Government-Industry Data Exchange Program (GIDEP) / Acute Launch Emergency Reliability Tip (ALERT) impacts, and review of non-standard parts approval requests.

- f. Hardware manufacturing and software development test plans and procedures, which shall include provisions for inspections and tests.
- g. Traceability in accordance with Program/Project requirements.
- h. Completeness of verification matrix, adequacy of verification methods selected, and appropriateness of success criteria.
- i. Closure of actions generated at the PDR.

6.3.1.7 For design validation the Contractor shall verify that the hardware and software design and implementation meets the Project requirement for life, environments, interfaces, and performance and that the method of verification (test, analysis, or inspection) is appropriate, adequate and documented in applicable Work Authorization Documents. The Contractor shall review all design validation documentation and participate in organizational and formal certification reviews.

6.3.2 Payloads

The Contractor shall provide evaluation of the implementation of JSC and NASA payload reliability and maintainability requirements. The Contractor shall participate in working group meetings and formal and informational reviews of payload documentation and data as described in NSTS 13830, Payload Safety Review and Data Submittal Requirements, NSTS 1700.7, Safety Policy and Requirements for Payloads Using the Space Transportation System (STS), and NSTS 1700.7, ISS Addendum, Safety Policy and Requirements for Payloads Using the International Space Station, to assess payload hardware and software compliance with applicable payload requirements. The Contractor shall identify problems, deficiencies, or concerns and present their findings along with recommendations for corrective and preventive actions to the responsible organization.

6.4 Manufacturing, Test, Acceptance, and Delivery

This phase includes materials procurements and receiving, fabrication and manufacturing, subassembly testing and assembly acceptance testing, formal acceptance by NASA, software code development, software verification testing, shipment, and physical delivery of the finished products and requires engineering, inspection, and recordkeeping functions. The Contractor shall audit manufacturing processes, inspect manufactured items, support testing, and provide inspection and processing services for storage, handling, shipping, and receiving. The manufacturing processes include metallurgical, chemical, metal-joining, bonding, plating and coating, surface-treating, EEE, welding, machining, and plastics-working processes, and designing and implementing manufacturing inspection attribute sampling plans.

6.4.1 Readiness Reviews

The Contractor shall conduct documentation and drawing reviews, coordinate work requests, and participate in formal reviews such as Manufacturing Readiness Reviews (MRRs) and Test Readiness Reviews (TRRs). The Contractor shall participate in Acceptance Reviews (ARs) to assess the readiness of hardware and software for acceptance by NASA.

6.4.2 Manufacturing and Test Assurance

6.4.2.1 The Contractor shall provide in-line technical assessments by use of inspection, verification, and the witnessing of work and processes used in the development and manufacturing of space flight hardware, software, and associated ground support equipment. Technical assessments are performed to verify work is accomplished according to applicable requirements. Inspection and verification tasks are associated with receiving, handling, storage, packaging, preservation, fabrication, assembly, test, processing, and shipping of hardware and software. The Contractor shall maintain all the Contractor-provided and Government-provided precision measurement mechanical and electronic tools and equipment required for performance of manufacturing and test assessment responsibilities contained in this SOW. The Contractor shall provide surveillance of hardware and software processes and hardware fabrication where in-line inspection is being accomplished by other than this Contractor's provided inspectors.

6.4.2.2 The Contractor shall support simulation or integrated ground system testing both pre- and post-acceptance to assess compliance of planned simulations or integrated system testing with NASA approved plans, procedures and applicable standards for the simulator or facility involved.

6.4.2.3 The Contractor shall provide engineering and technical services for the development, testing, acceptance, and delivery of software and associated tools. The Contractor shall perform software code walkthroughs to evaluate testability. The Contractor shall analyze test plans, procedures and results to ensure that the software meets S&MA requirements.

6.4.3 Non-Conformances

6.4.3.1 The Contractor shall document problems and anomalies by using a Non-Conformance Report (NCR) or Discrepancy Report (DR). The Contractor shall be responsible for trend coding of all NCRs and DRs and the preparation of trend reports and analyses based on trend coding data. This task includes conducting investigation and corrective action activities, documenting problems and anomalies, tagging and segregating discrepant hardware or software during investigation. The Contractor shall ensure that acceptable problem resolutions or explanations are documented and implemented.

6.4.3.2 The Contractor shall review failures and discrepancies that occur in JSC facilities supported by S&MA. The Contractor shall analyze the failure and discrepancy information and provide trend reports per DRD 17, Trend Analysis (JSC Systems) Report.

6.4.3.3 The Contractor shall maintain a system for reporting and tracking of Problem Reporting and Corrective Action (PRACA) items. The Contractor shall input problem data received from other contractors into the system, use and analyze the data for reporting and supporting other problem discussion activities, and output data from the system into Program systems that collect both Program and Project problem data. The Contractor shall participate in PRTs and similar investigation teams to ensure proper classification and disposition of problems, and support Project and Program level boards to provide status, closure, and disposition information. The PRACA process tracks problems that occur during manufacturing, assembly, test, maintenance, and operations. The PRACA process is described in NSTS 08126, Space Shuttle Problem Reporting and Corrective Action (PRACA) System Requirements, for the Shuttle Program, and in JSC 28035, JSC Government Furnished Equipment (GFE) Problem Reporting and Corrective Action (PRACA) Requirements, for GFE Projects, and SSP 30524, PRACA Data System Requirements Definition Document, and SSP 30223, Problem Reporting and Corrective Action for the

International Space Station, for the Space Station
Program.

6.4.4 Documentation Tracking and Retention

The Contractor shall provide tracking, control, maintenance and indices of documents and the actual or controlled electronic versions of documentation produced during this phase. Documentation includes but is not limited to Task Performance Sheets (TPSs), Virtual Work Authorization Records (VWARs), Work Order Packages, Interim DRs, DRs, MRRs, shipping documents, Acceptance Data Packages (ADPs), documentation on inactive hardware and equipment, and vendor data submittals.

6.4.5 Acceptance

The Contractor shall verify system requirements and specifications for safety, reliability and performance are met. The Contractor shall participate in Software Acceptance Reviews, System Acceptance Reviews, Functional Configuration Audits (FCAs), and Physical Configuration Audits (PCAs) to present and discuss their findings and recommendations. The Contractor shall ensure the completeness and accuracy of ADPs per SSP 30695, Acceptance Data Package Requirements Specification, and SN-D-0007, Acceptance Data Package Requirements.

6.5 Operations

This phase includes system certification or recertification to new or revised operational usage requirements, assessment of readiness for shipment, evaluation of readiness for operational use, and support to operations that include ground handling and flight.

6.5.1 Certification

The Contractor shall establish and maintain a process for the certification or recertification of hardware and software for flight that includes obtaining, producing, and reviewing objective evidence that design, production, safety and acceptance processes provide products that meet or exceed the minimum requirements identified for the hardware or software. The certification process for hardware includes tracking manifested items and assessing certification status, assembling, summarizing, and presenting certification data packages to a NASA Certifying Official, and logging, storing and controlling the signed certification documentation. The certification process includes the processing of the Government Certification Acceptance Record (GCAR).

6.5.2 Shipment of Flight Equipment

The Contractor shall ensure flight equipment being shipped for flight is ready for shipment and follow-on flight processing and integration. The Contractor shall verify that the equipment is certified for the mission, open issues have been resolved, pre and post flight ground processing open work has been scheduled, and there is sufficient life usage remaining to support the identified mission. The Contractor shall present their assessment of readiness for shipment to NASA.

6.5.3 Prelaunch Assessments

6.5.3.1 The Contractor shall perform evaluations of flight worthiness and readiness, and generate flight assessment documentation to support discussions and Flight Readiness Reviews (FRRs).

6.5.3.2 The Contractor shall prepare and present S&MA prelaunch assessment presentations for each flight per DRD 15, S&MA Prelaunch Assessment Presentations. The overall Program-level requirements for this activity are contained in NSTS 08117, Requirements and Procedures for Certification of Flight Readiness.

6.5.3.3 The Contractor shall support EVA mission crew training and verify EVA Assessment Team (EVAAT) crew training. EVA payloads and hardware reviews shall be supported by the Contractor to verify compliance with S&MA and EVA requirements. EVA related Integrated hazard reports shall also be reviewed to verify compliance to EVA requirements. The Contractor shall perform, document, baseline and maintain EVA operations risk assessments for Space Shuttle and ISS EVAs. The Space Shuttle Program-level requirement for this task is identified in NSTS 22254, Methodology for Conduct of Space Shuttle Program Hazard Analyses, and more specific requirements for operational and hazard assessments are contained in JSC 17481, Safety Requirements Document for JSC Space Shuttle Flight Equipment. The ISS Program-level requirement for this task is in SSP 30309, Safety Analysis and Risk Assessment Requirements Document.

6.5.3.4 The Contractor shall prepare S&MA Certification of Flight Readiness (CoFR) and Certification of EVA Readiness presentations for both S&MA internal and Program flight readiness reviews for each flight in accordance with the requirements of SSP 50108, Certification of Flight Readiness Process Document, ISS Program, Space Shuttle Program Directive 52, for the ISS Program, NSTS 08117, Requirements and Procedures for Certification of Flight Readiness, for the Shuttle Program, and JSC 28222, EVA Project Certification of Flight Readiness

Requirements and Implementation Plan, for EVA-related items.

6.5.4 Flight Planning and Real-Time Flight Support

- 6.5.4.1 The Contractor shall provide real-time flight support to monitor system use and performance and serve as the flight support data resource for S&MA data as well as Project specific data and documentation.
- 6.5.4.2 The Contractor shall participate in flight planning, mission simulation training and operations to identify potential safety issues to ground support systems, payloads, or mission operations and provide an independent assessment including recommendations for resolution, for discussion, or presentation to the responsible JSC forums or organizations.
- 6.5.4.3 In addition, the Contractor shall participate in investigations of in-flight anomalies and failures, and in the implementation of resolutions and preventive or corrective actions.

6.6 Sustaining Engineering and Maintenance

This phase includes engineering activities supporting the continuing usage of Project hardware and software. The Contractor shall support flight operations planning and assessments, performance and problem trending, hardware life assessments and maintenance requirements tracking, and engineering and inspection support to required maintenance and repair activities.

7.0 INDEPENDENT ASSESSMENT AND ASSURANCE ACTIVITIES

7.1 Independent Assessment (IA)

7.1.1 The Contractor shall provide Programmatic, technical, and process expertise within each S&MA discipline for conducting Independent Assessments (IAs) to enhance the success of Programs and Projects and the effectiveness of S&MA processes implemented in Programs and Projects. Assessments and evaluations shall be proposed by the Contractor. The Contractor shall report the results of assessments and evaluations per DRD 18, Evaluation Reports and DRD 19, Assessment Plans and Reports.

7.1.2 The Contractor shall:

- a. Identify status, issues, and concerns regarding safety and mission assurance and communicate this information to the JSC Independent Assessment Office (IAO) via informational reports (verbal or written) regarding meetings attended, Program and Project activities, and internal IA planning activities.
- b. Provide technical and administrative services to the JSC IAO to facilitate the Prelaunch Assessment Review (PAR) process of the JSC S&MA Directorate for unmanned International Partner (IP) launches to the ISS.
- c. Provide technical and administrative support to the NASA Headquarters Office of Safety and Mission Assurance (OSMA) SMARR process for Shuttle and Russian Soyuz launches.
- d. Provide expertise on audit teams to:
 1. Research and compile documentation needed in the audit
 2. Verify requirements traceability
 3. Identify requirements gaps
 4. Assess areas such as processes, staffing, skill mix, software tools, and funding
 5. Document findings and supporting objective evidence
- e. Maintain and administer the JSC IA website for use by IA personnel.
- f. Provide the JSC IAO Quarterly Activity Report in a mutually agreed format for redistribution to other IA locations and NASA management per DRD 16, Activity Reports.

7.2 Integrated Supplier Assurance Management Program (ISAMP)

- 7.2.1 NASA has implemented a program for evaluating, gathering, and disseminating information on Government suppliers' performance under the authority of the NPR 8735.2, Management of Government Safety and Mission Assurance Surveillance Functions for NASA Contracts.
- 7.2.2 The Contractor shall participate in the implementation of NASA quality assurance of Government suppliers. The assurance activities include consideration of hardware complexity, supplier experience, state of hardware development, unit cost, and hardware use. The Contractor shall also participate in Supplier Assurance Studies, Working Groups, and Headquarters Support. This support includes the preparation of meeting minutes and assistance in the development of Agency quality related procedures.
- 7.2.3 The Contractor shall provide project administration of the Integrated Supplier Assurance Management Program (ISAMP), which includes cost tracking and cost and Project reporting. The services shall also include services to and coordination with Headquarters and NASA Centers, Projects, and Programs.
- 7.2.4 In support of the Supplier Assessment System (SAS), the Contractor shall:
 - a. Maintain, enhance and train personnel in the use of the SAS data repository for the agency. The SAS provides the user with:
 - 1. a complete listing with supporting information of suppliers used by NASA with emphasis on performance and risk;
 - 2. Agency-wide supplier metrics, providing performance insight and targets of opportunity for supplier base improvements;
 - 3. detailed schedule information of audits;
 - 4. detailed repository of audit history information;
 - 5. provision of standardized tools (e.g. audit checklists, flow down audit formats for incorporation into DCMA LOD);
 - 6. resource links throughout the Agency for access to product data and best practices.
 - b. Coordinate activities with the Naval Sea Systems Command (NAVSEA), and the Missile Defense Agency, and Army Material Command as directed.

7.3 Software Continuous Process Improvement

- 7.3.1 The Contractor shall manage and provide services to the development and implementation of all NASA software continuous improvement initiatives in accordance with NPR 7150.2, Software Engineering Requirements. The primary goal is the release of safe and high quality software products and processes. Specifically, the Contractor shall perform the following:
- a. Establish comprehensive company goals for continuous improvement in the area of software development and assurance.
 - b. Provide metrics which quantify the effectiveness of continuous improvement goals.
 - c. Maintain a record of continuous improvement activities and associated results.
- 7.3.2 The Contractor shall provide technical and engineering services to the S&MA Software Assurance Technology Team (SWATT) in developing and maintaining continuous process improvement in the area of software development and assurance. This includes the periodic review and recommended revision to Agency and Center software policies, procedures and standards.
- 7.3.3 The Contractor shall maintain and ensure uniformity in the implementation of software quality and safety requirements for JSC Programs and Projects. This includes developing and implementing JSC approved procedures and controls that are consistent with software process and product continuous improvement models. The Contractor shall assist S&MA to ensure that JSC procedures and controls are compliant with the Capability Maturity Model Integrated (CMMI).

8.0 ADVANCED PROGRAMS, ASSURANCE METHODOLOGIES, AND SPECIAL PROCESSES

The Contractor shall ensure that S&MA disciplines are included in advanced programs and projects. Emphasis shall be placed on early involvement, responsiveness, and providing added value. This includes new, modified, and exploration-related programs and projects. Services shall also be provided to advance the state of the art in assurance practices and to maintaining cognizance of advanced technologies and their implications to the assurance function.

8.1 Advanced Programs and Projects

The Contractor shall provide early involvement to assigned advanced programs and projects to increase the likelihood of mission success, reduce the risk of injury to personnel, and improve the overall system safety, reliability, and mission assurance.

8.1.1 Risk Analyses

8.1.1.1 The Contractor shall perform qualitative and quantitative assessments of risk. The Contractor shall assist in the identification, assessment, reporting, tracking, and mitigation of risks throughout the program life-cycle. Examples of risk assessments include hazards analyses, FMEA, PRAs, reliability, maintainability, supportability and availability analyses.

8.1.1.2 The Contractor shall participate in requirements development and design trade studies to determine the most effective means of achieving safe and reliable space systems. The Contractor shall also utilize lessons learned, as well as research and analyze other data and methodologies to provide and defend recommendations.

8.1.2 Requirements Development

8.1.2.1 The Contractor shall assist the Government with the development and assessment of top-level S&MA requirements for proposed space flight programs and their associated support systems. This includes the development and evaluation of rationale and traceability for recommended requirements.

8.1.2.2 The Contractor shall assist with the development and assessment of Project- and subsystem-level S&MA requirements derived from higher level requirements. This includes the development and evaluation of rationale and traceability for recommended requirements.

8.1.3 Vehicle S&MA Engineering

- 8.1.3.1 The Contractor shall evaluate design concepts proposed by NASA and contractors against S&MA requirements and provide feedback to design processes with supporting data for recommendations.
- 8.1.3.2 The Contractor shall perform integrated system-level S&MA assessments of designs, specifications, and other Program documentation such as hazards analyses, safety plans, and reliability analyses and provide inputs to milestone reviews with supporting data for any findings.
- 8.1.3.3 The Contractor shall perform detailed evaluations of spacecraft subsystems through the review of subsystems specifications, design documents, operations plans, and the use of safety and reliability analysis tools. The Contractor shall also develop or evaluate subsystem safety and reliability analyses such as preliminary hazard analyses, hazard analyses, FMEAs, fault trees, and reliability block diagrams. The Contractor shall provide inputs to subsystem design specifications and operations documents at milestone reviews or as needed and present and defend these inputs. The Contractor shall assess planned flight operations concepts to ensure S&MA requirements are met and provide input to NASA.
- 8.1.3.4 The Contractor shall determine applicability of human rating requirements to space flight systems and incorporate such requirements in appropriate Program documents. The Contractor shall also generate and evaluate human rating plans and requirements and evaluate Program and Project compliance to human rating requirements and provide recommendations to correct deficiencies.

8.1.4 Procurement Quality Assurance (PQA)

- 8.1.4.1 The Contractor shall assist the Government in the development of procurement documentation in order to describe S&MA processes and products delivered by the spaceflight systems contractors.
- 8.1.4.2 The Contractor shall assist the Government in determining quality requirements to be incorporated into spaceflight systems contracts and assist in instituting processes to ensure that delivered products meet NASA requirements. The Contractor shall assist the Government in drafting LODs for government approval, to authorize DCMA or other Government agencies to accept spaceflight hardware and software deliverables.

8.2 Assurance Methodologies and Technologies

8.2.1 Assurance Methodologies

The Contractor shall participate in activities to advance state of the art assurance methodologies in support of NASA initiatives such as Research Technology Objectives and Plans (RTOPs) NASA Electronic Parts Packaging (NEPP) Program. The Contractor shall conduct or participate in research efforts in new technologies for the purpose of identifying assurance techniques required upon deployment of advanced technologies. The Contractor shall also propose RTOPs and plans for innovative methodologies and technologies for conducting risk assessments and providing product assurance. The Contractor shall support the NEPP by identifying and suggesting approaches for EEE parts database management, identifying and collecting data sources for EEE parts obsolescence, and identifying and comparing tools and techniques for predicting obsolescence.

8.2.2 Assurance Technologies

The Contractor shall carry out activities to advance S&MA capabilities in performing assurance functions. These activities include evolving or improving existing assurance and analysis techniques, and proposing and developing new assurance concepts.

The Contractor shall:

- a. Research and develop techniques to quantitatively assess the risks of software failures.
- b. Assess and develop new assurance tools in multiple areas such as: reliability, maintainability, and supportability analyses; probabilistic risk assessment; nondestructive evaluation and other inspection techniques; and risk management.
- c. Research advanced technologies with emphasis on assurance. Examples of such technologies are Micro-Electromechanical Systems (MEMS), nano-technology, advanced materials, and advanced computing and processing systems.
- d. Facilitate technology transfer through demonstrations to JSC Programs and Projects.

8.3 Special Processes

8.3.1 The Contractor shall provide expertise to assess new and emerging technologies and apply to programs and projects. Current designated areas are metals, welding, soldering, brazing, nonmetallic materials (composites and adhesives), Surface Mount Technology (SMT), lubrication, seals, contamination, fasteners, contamination-related environmental technology, fluids, NDE, and Statistical Process Control (SPC).

8.3.2 The Contractor shall:

- a. Evaluate data provided by hardware contractors and subcontractors on equipment to verify compliance with contract requirements and appropriate specifications.
- b. Provide materials and process engineering expertise for review of flight and flight-related system problems and recommend corrective actions to prevent problem reoccurrence.
- c. Support special problem investigations as required, review process-oriented hardware failure analyses and investigations, and provide findings and recommendations.
- d. Review Government and contractor drawings and specifications as directed. Present findings on adequacy and compliance, with emphasis on process technology.
- e. Review process specifications and procedures for fabrication, assembly, and testing; and prepare comments and findings.
- f. Review nondestructive test procedures and NDE of pressure vessels and fracture control of structural components. Provide findings on adequacy and compliance.
- g. Provide expertise in the development and maintenance of workmanship standards for manufacturing and process technologies at the Center and Agency levels.
- h. Recommend requirements for the JSC procurement of clean rooms, tools, related equipment, and services. The Contractor shall review JSC clean room facilities and operations and provide comments and findings.
- i. Provide expertise for the preparation and maintenance of cleanliness specifications and procedures for Program hardware testing, preflight checkout, and functional operations.
- j. Review JSC contamination control activities and provide recommendations concerning compliance to requirements.
- k. Establish and evaluate process technologies for ground-based and on-orbit applications.

8.4 Electrical, Electronic, Electromechanical (EEE) Parts

8.4.1 The Contractor shall provide services to JSC organizations that are responsible for internal or contracted efforts involving EEE parts in space flight hardware and mission-essential or critical ground support equipment for new designs, Programs, and Projects.

8.4.2 The Contractor shall:

- a. Provide verification during requirements definition phase to ensure that the parts screening, qualification and vendor selection process is compliant with requirements.
- b. Participate in audits of existing and proposed suppliers to verify compliance to NASA standards.
- c. Perform verification of the data submittal during hardware development for parts qualification, screening, EEE parts problem resolution and corrective action, risk assessment, and recurrence control.
- d. Assist in preparation, analysis and distribution of NASA Advisories and GIDEP ALERTS. Verify as-built configuration parts are not included in the GIDEP database and coordinate with JSC Engineering to resolve any nonconformances.
- e. Provide technical expertise to the Receiving Inspection and Test Facility (RITF) for EEE part failure analysis and screening.
- f. Evaluate electrical stress derating analysis and MTBF reliability analysis for flight hardware in conjunction with S&MA flight hardware certification process.
- g. Provide reliability analysis tools and manpower to perform MTBF analyses. The analysis shall be performed in two phases. In the early design phase, the analysis shall ensure the design is consistent with the hardware failure rate goal. The final design phase shall use the appropriate stress analysis model to verify the MTBF for the delivered hardware.
- h. Compare "as-built" configuration to the "as-designed" EEE parts lists and identify risk implications for any non-compliances to the Program and Project managers.
- i. Support JSC Engineering by verifying the test facilities meet Program requirements.

8.5 NASA Advisories and Government-Industry Data Exchange Program (GIDEP)/Acute Launch Emergency Reliability Tip (ALERT) System

- 8.5.1 The Contractor shall use the GIDEP/ALERT system to exchange information both internal and external to NASA.
- 8.5.2 The Contractor shall maintain the GIDEP/ALERT files and related information, and the ALERT distribution list. The Contractor shall review ALERTs for applicability to JSC contracts, distribute ALERTs, and determine adequacy of responses.
- 8.5.3 The Contractor shall provide a controlled method to evaluate, initiate, investigate, distribute and respond to ALERTs which apply to JSC and other NASA Centers per the process and requirements of NPR 8735.1, Procedure for Exchanging Parts, Materials, and Safety Problem Data Utilizing the Government Industry Data Exchange.

9.0 INSTITUTIONAL SAFETY AND QUALITY

9.1 Pressure Systems

9.1.1 The Contractor shall provide engineering and technical expertise for the JSC pressure systems certification Program as outlined in JPR 1710.13, Design, Inspection, and Certification of Pressure Vessels and Pressurized Systems. The Contractor shall:

- a. Review and certify compliance of Pressure Vessel System (PV/S) designs.
- b. Review and certify compliance of PV/S certification inspection and testing procedures.
- c. Perform pressure vessel inspections per JPR 1710.13.
- d. Track and record inspections and assessments per DRD 20, Facilities System Certification Report.
- e. Monitor PV/S tests for conformance to test requirements.
- f. Maintain a computerized inventory and recall system to document, track, and schedule all PV/S tests and inspections.

9.1.2 Inspection personnel shall possess a commission from the National Board of Boiler and Pressure Vessels. Inspectors shall be certified by the American Welding Society to perform weld inspections. The Contractor shall maintain copies of certifications and commissions and shall provide copies to the COTR.

9.2 White Sands Test Facility (WSTF)

9.2.1 The Contractor shall provide the White Sands Test Facility (WSTF) S&MA offices with support in the establishing and implementing policies and Program requirements, engineering and technical expertise in materials and process engineering, system safety, engineering and technical expertise for the JSC pressure systems certification program, inspection support to flight and flight-related systems to ensure that quality assurance requirements are satisfied, and performance of activities related to institutional safety and health.

9.2.2 The Contractor shall provide products and services to the WSTF S&MA in the following areas:

- a. Process submitted Corrective/Preventive Action Requests (CPAR), including tracking CPAR resolution and maintaining the WSTF CPAR database.

- b. Work with WSTF design groups, technical offices, and S&MA to make and implement quality improvements and changes.
- c. Provide field quality assessments and surveillance of WSTF test activities.
- d. Provide acceptance test verification.
- e. Support cross-functional management system and system safety audits.
- f. Generate discrepancy records for observed non-conformances and perform trend analysis.
- g. Support the processes required to perform re-certification and modification of existing ground-based pressure systems and certification of new ground-based pressure systems in accordance with facility policies and procedures, applicable industry codes and specifications, and governing NASA standards.
- h. Provide expertise to the processes required for the qualification of welding and brazing personnel and review and authorize welding and brazing processes and documentation in accordance with facility policies and procedures, applicable industry codes and specifications, and governing NASA standards.
- i. Review WSTF management system documents for sufficiency in addressing and conformity to meeting requirements.
- j. Perform vendor surveys and maintain Survey Vendor List (SVL).
- k. Develop training Programs for S&MA disciplines for use at WSTF.
- l. Train WSTF S&MA personnel and integrate with the JSC S&MA Personnel Qualification Program.
- m. Provide record maintenance, data entry, and management system documentation maintenance.
- n. Implement and maintain WSTF Hazard Management System. Assess applicable agency requirements implementation. Coordinate NASA customer inputs and communicate system needs to NASA.
- o. Plan and execute annual Performance Evaluation Profile (PEP) surveys and coordinate improvement activities performed by NASA and WSTF team contractor personnel.

- p. Facilitate contribution to and application of the Lessons Learned Information System (LLIS) per DRD 02, Lessons Learned, for WSTF personnel. Provide monthly assessment of WSTF information for candidate LLIS contributions. Coordinate application of LLIS with WSTF Management Representatives.
- q. Assess GIDEP/ALERTS and coordinate applicable information with affected WSTF representatives.

10.0 RECEIVING INSPECTION TEST FACILITY (RITF) (Completion Form)

- a. The effort described by this SOW Section provides the JSC S&MA Directorate with the expertise and ability to provide mechanical and electrical part testing, failure analysis and evaluations, and specialized training in NASA workmanship standards in support of the NASA International Space Station. The RITF is located at JSC and provides services to contractors and subcontractors, JSC and other NASA Centers, as well as other Government agencies in support of the ISS Program.
- b. The Contractor shall provide the engineering and technical services necessary to operate the RITF facility and accomplish the testing, evaluation, and training services.
- c. The Contractor shall ensure the existing American Association for Laboratory Accreditation (A2LA) and ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories, accreditation is maintained for all lab disciplines. The Contractor shall obtain AS9100 registration through the National Quality Assurance (NQA) accreditation agency for all lab disciplines.

10.1 Mechanical and Electrical Testing and Analysis

10.1.1 The Contractor shall perform the following mechanical and electrical testing and analyses within the RITF:

- a. Destructive and nondestructive physical, chemical, and metallurgical testing and analyses of raw materials, fasteners, and mechanical hardware and components. Testing includes ultimate load, hardness, and quantitative chemical analysis of fasteners (e.g., bolts and rivets). Fastener testing shall be conducted in accordance with the requirements of JSC 23642, JSC Fastener Integrity Testing Program.
- b. Failure analysis of electronic and mechanical components.
- c. Burn-in of electronics components.
- d. Application research and testing on electronic parts proposed for use in environments not specified by the manufacturer (e.g., vacuum, extremely high or low temperatures, plasma inducing pressure levels).
- e. Incoming inspection of electrical assemblies used in critical and life-support hardware.
- f. Incoming screening of wire and cable to be used for flight Projects at JSC per the requirements of JSCM 8080 E-24, Manned Spacecraft Criteria and Standards.

10.1.2 In performing RITF services, the Contractor shall establish test and analysis requirements, perform inspections, screen and test, evaluate test and screening results, and prepare documentation to

be returned to the customer. In the case of a failure analysis, the Contractor shall also include determination of failure cause, and process or manufacturing corrective action recommendations.

- 10.1.3 The Contractor shall perform testing and analyses of manufacturing techniques, processes, and procedures pertaining to welding, soldering, electrical wire certification, surface mount technology and printed wiring boards/circuits, heat treating, EEE and mechanical parts, interconnecting wiring, fiber optics, electrostatic discharge control, conformal coating and encapsulation, staking, bonding, and contamination control.

Performance Standards – RITF Mechanical and Electrical Testing and Analysis:

1. Minimum of 90% of lab services completed on schedule.
2. Customer Satisfaction – Services including testing, analysis, and documentation, receive an overall minimum rating of “good.”

10.2 Training

- 10.2.1 The Contractor shall maintain training courses for the following processes: through hole soldering and inspection; surface mount soldering and inspection, cable and harness crimping and inspection; wire-wrap; lithium battery handling; conformal coating fabrication and inspection; fiber optic termination; electrostatic discharge (ESD) control; and other related courses as identified in the future to support changing and new NASA program and project workmanship standards. This training ensures compliance to NASA and industry standards and demonstrates proficiency to perform the necessary tasks.
- 10.2.2 The Contractor shall provide a comprehensive training and cross-training program for all RITF personnel that includes both formal and on-the-job training and RITF equipment proficiency training. Training requirements and fulfillment are to be documented in the S&MA Training data system in accordance with DRD 14, S&MA Personal Qualification Program Plan.
- 10.2.3 The Contractor shall record all training conducted and employees trained. The Contractor shall track certifications resulting from process certification courses conducted and notify the training coordinator or designee when certifications require renewal.

Performance Standards – RITF Training:

1. 100% of periodic reports submitted on schedule
2. 100% employees with up to date training plans.

3. Customer Satisfaction – Course attendees opinion surveys indicate satisfaction with course content and level of detail.

10.3 Quality

- 10.3.1 The Contractor shall maintain a Quality Management System (QMS) in the RITF compliant with ANSI ASQ Q9001-2000, Quality Management Systems Requirements in accordance with DRD 06, Quality Manual.
- 10.3.2 The Contractor shall maintain the RITF's procedures, equipment, management, and personnel in compliance with ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories.
- 10.3.3 Upon receipt, the Contractor shall submit a copy of audit reports generated by internal or external auditors of the RITF to NASA RITF management. The Contractor shall provide written statuses per DRD 16, Activity Reports, of any open work remaining after an audit (such as auditor findings and observations) until the open work is completed and approved by the auditing organization.

Performance Standards – RITF Quality:

1. Maintained compliance to ANSI ASQ Q9001-2000 as verified by NASA-authorized audits and inspections.
2. Maintained certification to ISO/IEC 17025 as verified by NASA-authorized audits and inspections.

10.4 Laboratory Equipment and Facilities

The equipment provided by the Government for performance of RITF activities is listed in Section J. Property shall be managed by the Contractor per the approved Property Management Plan (DRD 08).

Performance Standards – RITF Laboratory Equipment and Facilities:

1. 100% of Property Reports submitted on time.
2. Minimum of 98% of accountable property accounted for.

10.5 Maintenance

The Contractor shall be responsible for the maintenance of RITF equipment. The Contractor shall plan, coordinate, and manage the resources to perform RITF services. The Contractor shall maintain a

prioritized life-cycle replacement and acquisition list of equipment needs that ensures continuity of RITF services and expansion of capacity to accommodate approved Program and Project requirements.

Performance Standards – RITF Maintenance:

1. 100% of equipment maintenance (scheduled maintenance and calibration) completed on schedule.
2. Life-cycle replacement and acquisition list updated and NASA-approved for input to NASA yearly budget planning activity on schedule.

10.6 Shipping and Receiving

The Contractor shall ship and receive all equipment and materials leaving or entering the RITF through the shipping and receiving area. The Contractor shall record and maintain information necessary for tracking incoming and outgoing shipments. For items being shipped or received by commercial package delivery or by the U.S. Postal Service, the Contractor shall coordinate with the JSC shipping and receiving departments.

Performance Standard – RITF Shipping and Receiving:

1. Less than one working day processing time for shipping and receiving processing.

10.7 Laboratory Information Management System (LIMS)

The Contractor shall maintain a Laboratory Information Management System (LIMS) provided by NASA. This system shall be used by the Contractor to track information and costs for all jobs performed by the RITF. The LIMS system shall be accessible by both Contractor and NASA personnel. Maintenance of the LIMS system hardware and software shall be in accordance with DRD 12, Information Technology Plan.

Performance Standards – RITF LIMS:

1. 100% data and system availability during weekdays from 8 a.m. to 6 p.m. and 24/7 during Shuttle flights (launch to landing).
2. Customer Satisfaction – Data system development and modification receive an overall minimum rating of "good."

RITF Workload Estimates:

- Jobs per year – 1411
 - Test samples per year* – 2683
 - Failure analysis or application analysis - 60
- Number of student seats per year – 1120

- Certifications being tracked – 1221

*Multiple test samples maybe combined to be considered as one job

SECTION D – PACKAGING AND MARKING

D.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

None included by reference.

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

None included by reference.

D.2 PACKAGING, HANDLING, AND TRANSPORTATION (NFS 1852.211-70) (SEPT 2005)

- (a) The Contractor shall comply with NASA Procedural Requirements (NPR) 6000.1, "Requirements for Packaging, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components", as may be supplemented by the statement of work or specifications of this contract, for all items designated as Class I, II, or III.
- (b) The Contractor's packaging, handling, and transportation procedures may be used, in whole or in part, subject to the written approval of the Contracting Officer, provided (1) the Contractor's procedures are not in conflict with any requirements of this contract, and (2) the requirements of this contract shall take precedence in the event of any conflict with the Contractor's procedures.
- (c) The Contractor must place the requirements of this clause in all subcontracts for items that will become components of deliverable Class I, II, or III items.

(End of clause)

[END OF SECTION]

SECTION E - INSPECTION AND ACCEPTANCE

E.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
52.246-5	APR 1984	INSPECTION OF SERVICES - COST-REIMBURSEMENT

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

None included by reference

E.2 INSPECTION AND ACCEPTANCE (JSC 52.246-90) (JUN 1991)

Final inspection and acceptance shall be accomplished by the contracting officer or his/her duly authorized representative at NASA Lyndon B. Johnson Space Center or at other locations covered by the Statement of Work.

(End of clause)

[END OF SECTION]

SECTION F - DELIVERIES OR PERFORMANCE

F.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. **FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)**

CLAUSE NUMBER	DATE	TITLE
52.242-15	AUG 1989	STOP-WORK ORDER (ALTERNATE I) (APR 1984)

II. **NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)**

None included by reference.

F.2 COMPLETION OF WORK AND PERIOD OF PERFORMANCE (Effective October 1, 2010)

- (a) All work required under Sections 3.1, 3.2, 3.4, 3.5, and 3.6, Section 4.0, and Section 10.0 of the Statement of Work of this contract, including submission of all reports, shall be completed on or before April 30, 2011.
- (b) The period of performance for Sections 3.3, 3.7; and Sections 5.0 through 9.0 of the Statement of Work of this contract shall be from May 1, 2006 through April 30, 2011.

(End of Clause)

F.3 ADVANCE NOTICE OF SHIPMENT (NFS 1852.247-72) (OCT 1988)

Ten work days prior to shipping item(s), for all items other than items listed in Attachment J.1, Data Requirements List (DRL) and Data Requirements Description (DRD), the Contractor shall furnish the anticipated shipment date, bill of lading number (if applicable), and carrier identity to Contracting Officer Technical Representative and to the Contracting Officer.

(End of Clause)

F.4 BILLS OF LADING (NFS 1852.247-73) (JUN 2002)

The purpose of this clause is to define when a commercial bill of lading or a government bill of lading is to be used when shipments of deliverable items under this contract are f.o.b. origin.

- (a) **Commercial Bills of Lading.** All domestic shipments shall be made via commercial bills of lading (CBLs). The Contractor shall prepay domestic transportation charges. The Government shall reimburse the Contractor for these charges if they are added to the invoice as a separate line item supported by the paid freight receipts. If paid receipts in support of the invoice are not obtainable, a statement as described below must be completed, signed by an authorized company representative, and attached to the invoice.

"I certify that the shipments identified below have been made, transportation charges have been paid by (company name), and paid freight or comparable receipts are not obtainable.

Contract or Order Number: _____

Destination: _____."

- (b) **Government Bills of Lading.**

- (1) International (export) and domestic overseas shipments of items deliverable under this contract shall be made by Government bills of lading (GBLs). As used in this clause, "domestic overseas" means non-continental United States, i.e. Hawaii, Commonwealth of Puerto Rico, and possessions of the United States.

- (2) At least 15 days before shipment, the Contractor shall request in writing GBLs from: Cindy Fuller, Contract Transportation, 2101 NASA Parkway, Mail Code JB7, Houston, TX 77058. If time is limited, requests may be by telephone: 281-483-3208. Requests for GBLs shall include the following information.

- (i) Item identification/ description.
- (ii) Origin and destination.
- (iii) Individual and total weights.
- (iv) Dimensional Weight.
- (v) Dimensions and total cubic footage.
- (vi) Total number of pieces.
- (vii) Total dollar value.
- (viii) Other pertinent data.

(End of Clause)

F.5 OPTION TO EXTEND COMPLETION DATE (JSC 52.217-90) (OCT 1996)

The Government may require the contractor to continue to perform services under this contract. The contracting officer may exercise this option by issuance of a unilateral contract modification 20 days or more before the completion date set forth in Section F.2. Should the option(s) be exercised, the resultant contract will include all terms and conditions of the basic contract as it exists immediately prior to the exercise of the option, except for the following changes:

Option 1:

1. B.2, entitled "ESTIMATED COST AND AWARD FEE" will be modified to reflect the addition of bf to the estimated cost and bf to the maximum available award fee.

The additional estimated cost and award fee for Option 1 is broken out as follows:

	<u>Estimated Cost</u>	<u>Available Award Fee</u>	<u>Total Cost</u>
Option 1 Core Completion Form			
Option 1 Level-of-Effort		bf	
Option 1 New Mexico Gross Receipts Tax			
OPTION 1 TOTAL		bf	

2. F.2 (a), entitled "COMPLETION OF WORK AND PERIOD OF PERFORMANCE" will be modified to state:

"(a) All work required under Sections 3.0, 4.0, and 10 of the Statement of Work of this contract, including submission of all reports, shall be completed on or before April 30, 2010.

(b) The period of performance for Sections 5.0 through 9.0 of the Statement of Work of this contract shall be from May 1, 2006 through April 30, 2010."

3. F.6, entitled "FLEX OPTIONS – LEVEL OF EFFORT (LOE)" will be modified to add the following:

(ii) The Government may increase the number of direct labor hours required to be furnished during the option period by an amount ranging from 1 to 174,940.

(a) For options exercised during contract year 4 (Option 1), the estimated cost and maximum award fee will be increased by

b4 and b4 respectively, for every direct labor hour ordered by the exercise of an option.

4. B.4 (a), entitled "LEVEL-OF-EFFORT" shall be modified by increasing the total direct labor hours by _____ hours.
5. I.3, entitled "PAYMENT FOR OVERTIME PREMIUMS" shall be modified to _____ b4

Option 2:

1. B.2, entitled "ESTIMATED COST AND AWARD FEE" will be modified to reflect the addition of b4 to the estimated cost and b4 to the maximum available award fee.

The additional estimated cost and award fee for Option 2 is broken out as follows:

	<u>Estimated Cost</u>	<u>Available Award Fee</u>	<u>Total Cost</u>
Option 2 Core Completion Form			
Option 2 Level-of-Effort		<u>b4</u>	
Option 2 New Mexico Gross Receipts Tax			
OPTION 1 TOTAL			<u>b4</u>

2. F.2 (a), entitled "COMPLETION OF WORK AND PERIOD OF PERFORMANCE" will be modified to state:

"(a) All work required under Sections 3.0, 4.0, and 10 of the Statement of Work of this contract, including submission of all reports, shall be completed on or before April 30, 2011.

(b) The period of performance for Sections 5.0 through 9.0 of the Statement of Work of this contract shall be from May 1, 2006 through April 30, 2011."
3. F.6, entitled "FLEX OPTIONS – LEVEL OF EFFORT (LOE)" will be modified to add the following:

(iii) The Government may increase the number of direct labor hours required to be furnished during the option period by an amount ranging from 1 to 174,940.

(a) For options exercised during contract year 5 (Option 2), the estimated cost and maximum award fee will be increased by

64 and \$ 64 respectively, for every direct labor hour ordered by the exercise of an option.

4. B.4 (a), entitled "LEVEL-OF-EFFORT" shall be modified by increasing the total direct labor hours by 64 hours.
5. I.3, entitled "PAYMENT FOR OVERTIME PREMIUMS" shall be modified to 64

The total duration of this contract, including the exercise of any option under this clause shall not exceed 5 years.

(End of Clause)

F.6 FLEX OPTIONS – LEVEL OF EFFORT (LOE)

The Government may increase the number of LOE direct labor hours required to be furnished during the period of performance by an amount ranging from 1 to (see b below) hours. If the Government elects to exercise its option, referred throughout this clause as a flex option, to increase the number of direct labor hours to be furnished, the Contractor will be so notified with a unilateral modification to the contract executed by the Contracting Officer. The terms and conditions relating to the Government's rights as provided herein are as follows:

- (a) The Government may increase the amount of LOE direct labor hours to be furnished (as listed in B.4 (a), entitled "LEVEL-OF-EFFORT") up to the amounts specified below by the exercise of one flex option, or by the exercise of multiple flex options, during the period of performance.
- (b) If the Government exercises one or more flex options pursuant to this clause, the administration of such action(s) shall be as follows:
 - (i) The Government may increase the number of direct labor hours listed in clause B.4 (a), entitled "LEVEL-OF-EFFORT," during the base period by an amount ranging from 1 to 524,820 hours.
 - (a) For options exercised during contract year 1, the estimated cost and maximum award fee will be increased by 64 and 64 respectively, for every direct labor hour ordered by the exercise of an option.
 - (b) For options exercised during contract year 2, the estimated cost and maximum award fee will be increased by 64 and 64 respectively, for every direct labor hour ordered by the exercise of an option.
 - (c) For options exercised during contract year 3, the estimated cost and maximum award fee will be increased by 64 and 64 respectively, for every direct labor hour ordered by the exercise of an option.

(ii) The Government may increase the number of direct labor hours required to be furnished during the May 1, 2009 to April 30, 2011, by an amount ranging from b4

(a) For options exercised during contract year 4, the estimated cost and maximum award fee will be increased by \$ ~~b4~~ and ~~b4~~ respectively, for every direct labor hour ordered by the exercise of an option.

(End of Clause)

F.7 SHIPPING INSTRUCTIONS (JSC 52.247-94) (APR 1997)

All documentation shall be shipped to the addresses cited in Attachment J.1, DRL and DRD. Shipment of all other items shall be as follows:

Parcel Post Shipments and Freight Shipments

Ship to: Transportation Officer, Building 421
NASA Johnson Space Center
2101 NASA Parkway
Houston, TX 77058-3696

Mark for: Accountable Property Officer
Mark with: Purchase Request No. TBD
Contract Number: TBD

For reissue to: Contracting Officer's Technical Representative (COTR)
Mail Code: NA

(End of Clause)

F.8 FLIGHT ITEM (JSC 52.247-95) (SEPT 1989)

Block 16 of each Department of Defense Form 250 prepared for hardware or equipment to be shipped under this contract must be annotated as follows in 1/4-inch letters or larger by hand printing or rubber stamp:

"THIS IS A FLIGHT ITEM": OR "THIS IS MISSION ESSENTIAL GROUND SUPPORT EQUIPMENT," as applicable.

(End of Clause)

[END OF SECTION]

SECTION G – CONTRACT ADMINISTRATION DATA

G.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

None included by reference.

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

CLAUSE NUMBER	DATE	TITLE
1852.216-89	JULY 1997	ASSIGNMENT AND RELEASE FORMS
1852.227-70	MAY 2002	NEW TECHNOLOGY
1852.227-86	DEC 1987	COMMERCIAL COMPUTER SOFTWARE - LICENSING
1852.242-71	DEC 1988	TRAVEL OUTSIDE OF THE UNITED STATES
1852.242-73	NOV 2004	NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING
1852.245-70	JULY 1997	CONTRACTOR REQUESTS FOR GOVERNMENT-OWNED EQUIPMENT

G.2 PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL (FAR 52.204-9) (JAN 2006)

- (a) The Contractor shall comply with agency personal identity verification procedures identified in the contract that implement Homeland Security Presidential Directive-12 (HSPD-12), Office of Management and Budget (OMB) guidance M-05-24, and Federal Information Processing Standards Publication (FIPS PUB) Number 201.
- (b) The Contractor shall insert this clause in all subcontracts when the subcontractor is required to have physical access to a federally-controlled facility or access to a Federal information system.

(End of clause)

G.3 AWARD FEE FOR SERVICE CONTRACTS (NFS 1852.216-76) (JUN 2000)

- (a) The contractor can earn award fee from a minimum of zero dollars to the maximum stated in NASA FAR Supplement clause 1852.216-85, "Estimated Cost and Award Fee" in this contract.

- (b) Beginning 6 months after the effective date of this contract, the Government shall evaluate the Contractor's performance every 6 months to determine the amount of award fee earned by the contractor during the period. The Contractor may submit a self-evaluation of performance for each evaluation period under consideration. These self-evaluations will be considered by the Government in its evaluation. The Government's Fee Determination Official (FDO) will determine the award fee amounts based on the Contractor's performance in accordance with the Award Fee Plan (Section J, Attachment J-1). The plan may be revised unilaterally by the Government prior to the beginning of any rating period to redirect emphasis.
- (c) The Government will advise the Contractor in writing of the evaluation results. The Financial Management Office will make payment based on the issuance of a unilateral modification by the contracting officer.
- (d) After 85 percent of the potential award fee has been paid, the Contracting Officer may direct the withholding of further payment of award fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15 percent of the total potential award fee.
- (e) The amount of award fee which can be awarded in each evaluation period is limited to the amounts set forth at Section J, Attachment J.5. Award fee which is not earned in an evaluation period cannot be reallocated to future evaluation periods.
- (f)
 - (1) Provisional award fee payments will be made under this contract pending the determination of the amount of fee earned for an evaluation period. If applicable, provisional award fee payments will be made to the Contractor on a monthly basis. The total amount of award fee available in an evaluation period that will be provisionally paid is 75 percent of the prior period's evaluation score.
 - (2) Provisional award fee payments will be superseded by the final award fee evaluation for that period. If provisional payments exceed the final evaluation score, the Contractor will either credit the next payment voucher for the amount of such overpayment or refund the difference to the Government, as directed by the Contracting Officer.
 - (3) If the Contracting Officer determines that the Contractor will not achieve a level of performance commensurate with the provisional rate, payment of provisional award fee will be discontinued or reduced in such amounts as the Contracting Officer deems appropriate. The Contracting Officer will notify the Contractor in writing if it is determined that such discontinuance or reduction is appropriate.
 - (4) Provisional award fee payments will be made prior to the first award fee determination by the Government.

- (g) Award fee determinations are unilateral decisions made solely at the discretion of the Government.

(End of clause)

G.4 SUBMISSION OF VOUCHERS FOR PAYMENT (NFS 1852.216-87) (MAR 1998)

- (a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is indicated below. Public vouchers for payment of costs shall include a reference to the number of this contract.
- (b)
- (1) If the contractor is authorized to submit interim cost vouchers directly to the NASA paying office, the original voucher should be submitted to:

LF231/Accounts Payable Group
NASA Johnson Space Center
2101 NASA Parkway
Houston, TX 77058-3696
 - (2) For any period that the Defense Contract Audit Agency has authorized the Contractor to submit interim cost vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment, subject to final audit.
 - (3) Copies of vouchers should be submitted as directed by the Contracting Officer.
- (c) If the contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (b), the contractor shall prepare and submit vouchers as follows:
- (1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to:

Defense Contract Audit Agency
Houston Branch Office
8876 Gulf Freeway, Suite 500
Houston, Texas 77017
 - (2) Five copies of SF 1034, SF 1035A, or equivalent Contractor's attachment to the following offices by insertion in the memorandum block of their names and addresses:
 - (i) Copy 1 NASA Contracting Officer
 - (ii) Copy 2 Auditor
 - (iii) Copy 3 Contractor

- (iv) Copy 4 Contract administration office; and
- (v) Copy 5 Project management office.

(3) The Contracting Officer may designate other recipients as required.

(d) Public vouchers for payment of fee shall be prepared similarly to the procedures in paragraphs (b) or (c) of this clause, whichever is applicable, and be forwarded to the same address as b(1) above. This is the designated billing office for fee vouchers for purposes of the Prompt Payment clause of this contract.

(e) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

(End of clause)

G.5 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE (NFS 1852.227-72) (JUL 1997)

(a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights--Retention by the Contractor (Short Form)," whichever is included, the following named representatives are hereby designated by the Contracting Officer to administer such clause:

Title	Office Code	Address (including zip code)
New Technology Representative	AT NASA/JSC	Johnson Space Center AT/Technology Transfer and Commercialization Office Houston, TX 77058
Patent Representative	AL NASA/JSC	Johnson Space Center AL/Legal Office Houston, TX 77058

(b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative unless transmitted in response to correspondence or request from the Patent Representative. Inquires or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any subcontract hereunder requiring a "New Technology" clause or "Patent Rights--Retention by the Contractor (Short Form)" clause, unless otherwise authorized or directed by the Contracting Officer. The respective responsibilities and authorities of the above-named representatives are set forth in 1827.305-370 of the NASA FAR Supplement.

(End of clause)

G.6 TECHNICAL DIRECTION (NFS 1852.242-70) (SEPT 1993) (Applicable to LOE Sections of the SOW)

- (a) Performance of the work under this contract is subject to the written technical direction of the Contracting Officer Technical Representative (COTR), who shall be specifically appointed by the Contracting Officer in writing in accordance with NASA FAR Supplement 1842.270. "Technical direction" means a directive to the Contractor that approves approaches, solutions, designs, or refinements; fills in details or otherwise completes the general description of work or documentation items; shifts emphasis among work areas or tasks; or furnishes similar instruction to the Contractor. Technical direction includes requiring studies and pursuit of certain lines of inquiry regarding matters within the general tasks and requirements in Section C of this contract.
- (b) The COTR does not have the authority to, and shall not, issue any instruction purporting to be technical direction that —
 - (1) Constitutes an assignment of additional work outside the statement of work;
 - (2) Constitutes a change as defined in the changes clause;
 - (3) Constitutes a basis for any increase or decrease in the total estimated contract cost, the fixed fee (if any), or the time required for contract performance;
 - (4) Changes any of the expressed terms, conditions, or specifications of the contract; or
 - (5) Interferes with the contractor's rights to perform the terms and conditions of the contract.
- (c) All technical direction shall be issued in writing by the COTR.
- (d) The Contractor shall proceed promptly with the performance of technical direction duly issued by the COTR in the manner prescribed by this clause and within the COTR's authority. If, in the Contractor's opinion, any instruction or direction by the COTR falls within any of the categories defined in paragraph (b) of this clause, the Contractor shall not proceed but shall notify the Contracting Officer in writing within 5 working days after receiving it and shall request the Contracting Officer to take action as described in this clause. Upon receiving this notification, the Contracting Officer shall either issue an appropriate contract modification within a reasonable time or advise the Contractor in writing within 30 days that the instruction or direction is—
 - (1) Rescinded in its entirety; or

- (2) Within the requirements of the contract and does not constitute a change under the changes clause of the contract, and that the Contractor should proceed promptly with its performance.
- (e) A failure of the contractor and contracting officer to agree that the instruction or direction is both within the requirements of the contract and does not constitute a change under the changes clause, or a failure to agree upon the contract action to be taken with respect to the instruction or direction, shall be subject to the Disputes clause of this contract.
- (f) Any action(s) taken by the contractor in response to any direction given by any person other than the Contracting Officer or the COTR shall be at the Contractor's risk.

(End of clause)

G.7 FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS (NFS 1852.245-73) (OCT 2003)

- (a) The Contractor shall submit annually a NASA Form (NF) 1018, NASA Property in the Custody of Contractors, in accordance with the provisions of 1845.505-14, the instructions on the form, subpart 1845.71, and any supplemental instructions for the current reporting period issued by NASA.
- (b)
 - (1) Subcontractor use of NF 1018 is not required by this clause; however, the Contractor shall include data on property in the possession of subcontractors in the annual NF 1018.
 - (2) The Contractor shall mail the original signed NF 1018 directly to the cognizant NASA Center Deputy Chief Financial Officer, Finance, unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.
 - (3) One copy shall be submitted (through the Department of Defense (DOD) Property Administrator if contract administration has been delegated to DOD) to the following address: LF631/Property Accounting and to JB3/Property Administrator, unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.
- (c)
 - (1) The annual reporting period shall be from October 1 of each year through September 30 of the following year. The report shall be submitted in time to be received by October 15. The information contained in these reports is entered into the NASA accounting system to reflect current asset values for agency financial statement purposes. Therefore, it is essential that required reports be received no later than October 15. Some activity may be estimated for the month of September, if necessary, to ensure the NF 1018 is received

when due. However, contractors procedures must document the process for developing these estimates based on planned activity such as planned purchases or NASA Form 533 (NF 533 Contractor Financial Management Report) cost estimates. It should be supported and documented by historical experience or other corroborating evidence, and be retained in accordance with FAR Subpart 4.7, Contractor Records Retention. Contractors shall validate the reasonableness of the estimates and associated methodology by comparing them to the actual activity once that data is available, and adjust them accordingly. In addition, differences between the estimated cost and actual cost must be adjusted during the next reporting period. Contractors shall have formal policies and procedures, which address the validation of NF 1018 data, including data from subcontractors, and the identification and timely reporting of errors. The objective of this validation is to ensure that information reported is accurate and in compliance with the NASA FAR Supplement. If errors are discovered on NF 1018 after submission, the contractor shall contact the cognizant NASA Center Industrial Property Officer (IPO) within 30 days after discovery of the error to discuss corrective action.

- (2) The Contracting Officer may, in NASA's interest, withhold payment until a reserve not exceeding \$25,000 or 5 percent of the amount of the contract, whichever is less, has been set aside, if the Contractor fails to submit annual NF 1018 reports in accordance with 1845.505-14 and any supplemental instructions for the current reporting period issued by NASA. Such reserve shall be withheld until the Contracting Officer has determined that NASA has received the required reports. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

- (d) A final report shall be submitted within 30 days after disposition of all property subject to reporting when the contract performance period is complete in accordance with (b)(1) through (3) of this clause.

(End of clause)

G.8 LIST OF GOVERNMENT-FURNISHED PROPERTY (NFS 1852.245-76) (OCT 1988)

For performance of work under this contract, the Government will make available Government property identified below or in Attachment J.7A, of this contract on a no-charge-for-use basis. The Contractor shall use this property in the performance of this contract at JSC, Sonny Carter and Ellington Field and at other location(s) as may be approved by the Contracting Officer. Under the FAR 52.245-5 Government property clause of this contract, the Contractor is accountable for the identified property.

(End of clause)

G.9 SECURITY/BADGING REQUIREMENTS FOR FOREIGN NATIONAL VISITORS AND EMPLOYEES/REPRESENTATIVES OF FOREIGN CONTRACTORS (JSC 52.204-91) (MAR 2002)

- (a) An employee of a domestic Johnson Space Center (JSC) contractor or its subcontractor who is not a U.S. citizen (foreign national) may not be admitted to the JSC site for purposes of performing work without special arrangements. In addition, all employees or representatives of a foreign JSC contractor/subcontractor may not be admitted to the JSC site without special arrangements. For employees as described above, advance notice must be given to the Security Office of the host installation [JSC or White Sands Test Facility (WSTF)] at least three weeks prior to the scheduled need for access to the site so that instructions on obtaining access may be provided.
- (b) All visit/badge requests for persons described in (a) above must be entered in the NASA Request for Request (RFR) and Foreign National Management System (NFNMS) for acceptance, review, concurrence, and approval purposes. When an authorized company official requests a JSC or WSTF badge for site access, he/she is certifying that steps have been taken to ensure that its contractor or subcontractor employees, visitors, or representatives will not be given access to export-controlled or classified information for which they are not authorized. These individuals shall serve as the contractor's representative(s) in certifying that all visit/badge request forms are processed in accordance with JSC and WSTF security and export control procedures. No foreign national, representative, or resident alien contractor/subcontractor employee shall be granted access into JSC or WSTF until a completed RFR has been approved and processed through the NFNMS. Unescorted access will not be granted unless a favorable National Agency Check (NAC) has been completed by the JSC Security Office.
- (c) The contractor agrees that it will not employ for the performance of work onsite at JSC or WSTF any individuals who are not legally authorized to work in the United States. If the JSC or WSTF Industrial Security Specialist or the contracting officer has reason to believe that any employee of the contractor may not be legally authorized to work in the United States and/or on the contract, the contractor may be required to furnish copies of Form I-9 (Employment Eligibility Verification), U.S. Department of Labor Application for Alien Employment Certification, and any other type of employment authorization document.

The contractor agrees to provide the information requested by JSC or WSTF Security Office in order to comply with NASA policy directives and guidelines related to foreign visits to NASA facilities so that (1) the visitor/employee/representative may be allowed access to JSC or other NASA centers for performance of this contract, (2) required investigations can be conducted, and (3) required annual or revalidation reports can be submitted to NASA Headquarters. All requested information must be submitted in a timely

manner in accordance with instructions provided by JSC or any other center to be visited.

(End of clause)

G.10 USE OF JSC CALIBRATION LABORATORY (JSC 52.204-92) (OCT 1997)

The contractor shall utilize the services of the JSC Calibration Laboratory to the maximum extent practicable for calibration of all instruments (Government property or contractor property) utilized under this contract, the total cost for maintenance of which would otherwise be a direct charge to the Government. The procedures for obtaining calibration of instruments are described in JSC Procedures and Guidelines 5151.2 – "JSC Support Contractor Procedures and Guidelines."

(End of clause)

G.11 JSC HAZARDOUS MATERIALS USE (JSC 52.223-92) (DEC 1999)

- (a) This clause is JSC-unique, and the requirements are in addition to any U.S. Environmental Protection Agency, U.S. Occupational Safety and Health Administration, or other state or Federal regulation or statute. Therefore, the following requirements do NOT supercede any statutory or regulatory requirements for any entity subject to this clause.
- (b) "Hazardous materials," for the purposes of this clause, consist of the following:
 - (1) Those materials defined as "highly hazardous chemicals" in Occupational Safety and Health Administration Process Safety Management Regulation, 29 Code of Federal Regulation 1010.119, without regard for quantity.
 - (2) Those "extremely hazardous substances" subject to the emergency planning requirements in the Environmental Protection Agency Emergency Planning and Community Right-to-Know Regulation, 40 Code of Federal Regulation 355, Part 355, without regard for quantity.
 - (3) Those "hazardous substances" subject to the release notification requirements under Environmental Protection Agency's Emergency Planning and Community Right-to-Know Regulation, 40 Code of Federal Regulation 302.4, without regard for quantity.
 - (4) Any radioisotope material or device that produces ionizing radiation.
 - (5) Any Class II, III, or IV laser as defined by the American National Standards Institute No. Z136.1 (1986)
 - (6) Any explosive or any pyrotechnics.

(7) Any pesticide.

- (c) The contractor shall develop and maintain an inventory listing the identity and quantity of hazardous materials stored or used onsite at JSC for the performance of the contract.
- (d) The contractor shall ensure that the proper training of its employees in the use and inherent hazards of these materials is accomplished prior to use.
- (e) The contractor shall notify the JSC Occupational Health and Test Support Office (SD13) prior to any initial use or different application of these materials.
- (f) The contractor shall use all hazardous materials properly and take all necessary precautions to ensure no harm is done to humans or the environment.
- (g) The contractor shall insert the substance of this clause, including this Paragraph F with appropriate changes of designations of the parties, in subcontracts under which hazardous materials will be utilized, or may reasonably be expected to be utilized, onsite at JSC.
- (h) In the event the contractor fails or refuses to comply with any aspect of this clause, such failure or refusal may be considered a material breach of this contract.

(End of clause)

G.12 UNDERSTANDING WITH RESPECT TO COST VARIATIONS (JSC 52.232-93) (MAR 1989)

The estimated cost of this contract is based on cost estimates for a number of cost elements (e.g., direct labor, overhead, materials, travel). One or more of these estimates was made by the Government and provided to the contractor in the solicitation leading to this contract*. The parties recognize that the contractor's obligation to perform tasks within the scope of the Statement of Work could result in actual contractor expenditures which are greater or less than the Government's estimates provided to the contractor for the related cost element. Should such be the case, the parties agree that there will be no adjustment to the fee provided for in this contract, nor to any other terms and conditions hereof, except the contract estimated cost, should that become necessary. Any such adjustment in estimated cost will be subject to the terms of the "Limitation of Cost" or "Limitation of Funds" clause hereof, whichever is applicable.

*These Government estimates include Travel and Material with "Materials/Subcontracts" excluded from the Material cost element. These Government estimates are given below for the base period of performance and both options periods:

	BASE	OPTION 1	OPTION 2
Travel	\$2,776,000	\$ 978,000	\$1,005,000
Material	\$ 571,000	\$ 201,000	\$ 207,000

(End of clause)

G.13 IDENTIFICATION OF EMPLOYEES (JSC 52.242-92) (MAR 2002)

At all times while on Government property, the contractor, subcontractors, their employees, and agents shall wear badges which will be issued by the NASA Badging & Visitor Control Office, located in Building 110 at the Johnson Space Center (JSC), or at the Main Gate at the White Sands Test Facility (WSTF). JSC employee badges will be issued only between the hours of 7:30 a.m. to 4 p.m., Monday through Thursday, and 7:30 am to 12:00 pm on Friday. JSC visitor badges will be issued between the hours of 6 a.m. to 10 p.m., 7 days a week. WSTF employee badges will be issued only between the hours of 8 a.m. to 2 p.m., Monday through Friday. WSTF visitor badges will be issued on a 7-day-a-week, 24-hour-a-day basis. Resident aliens and foreign nationals/representatives shall be issued green foreign national badges.

Each individual who wears a badge shall be required to declare citizenship and personally sign for the badge. The contractor shall be held accountable for issued badges and all other related items and must assure that they are returned to the NASA Badging & Visitor Control Offices upon completion of work under the contract in accordance with Security Management Directive (SMD) 500-15, "Security Termination Procedures." Failure to comply with the NASA contractor termination procedures upon completion of the work (e.g., return of badges, decals, keys, Controlled Access Area cards, clearance terminations, JSC Public Key Infrastructure (PKI)/special program deletions, etc.) may result in final payment being delayed.

(End of clause)

G.14 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY (NFS 1852.245-71) (NOV 2004) (JSC Version NOV 2004)

- (a) The Government property described in the clause at 1852.245-77, List of Installation-Accountable Property and Services, shall be made available to the Contractor on a no-charge basis for use in performance of this contract. This property shall be utilized only within the physical confines of the NASA installation that provided the property. Under this clause, the Government retains accountability for, and title to, the property, and the Contractor assumes the following user responsibilities:

Property Custodian Responsibilities: Reference NPR 4200.2

Chapter 2: Responsibilities

Section 2.3. Property Custodians

Section 2.4 Full Time Property Custodians

Paragraphs 2.4.1 and 2.4.2

Chapter 4: Operational Procedures

Section 4.2 Identification of Equipment

Paragraphs 4.2.8, 4.2.9, 4.2.10,

Section 4.3. Standard NEMS Reports for Property Custodians.

Paragraphs 4.3.1 through 4.3.4.5

Section 4.4. Inventory Procedures.

Paragraphs 4.4.1 through 4.4.5

Chapter 5. (Entire Content)

User Responsibilities: Reference Document (NPR 4200.2)

Chapter 2.

2.7. Responsibility of the Individual. The contractor shall ensure that each of its employees are responsible for Government property as follows: An employee has a duty to protect and conserve Government property and shall not use such property, or allow its use, for other than authorized purposes. Additional responsibilities include the following:

2.7.1. Reporting any missing or un-tagged (meeting the criteria for control) equipment, transfer, location change, or user change of equipment to the property custodian immediately.

2.7.2. Notifying the property custodian, supervisor, and the Center security officer immediately if theft of Government property is suspected.

2.7.3. Ensuring that equipment is used only in pursuit of approved NASA programs and projects.

2.7.4. Notifying the property custodian of equipment not actively being used for determination of proper disposition.

2.7.5. Ensuring that equipment is returned through the property custodian when no longer needed. Under no circumstances will an employee throw away Government equipment.

2.7.6. Assigned users retain all responsibilities including notifying property custodians of all activity associated with the user's assigned equipment.

2.8. The contractor must ensure that all on-site contractor employees notify the contracting officer, property custodian, and SEMO upon termination of employment.

Chapter 4.

4.2.11. The user will assist the custodian in completing NF 1618 and sign in the designated block.

The contractor shall establish and adhere to a system of written procedures for compliance with these user responsibilities. Such procedures must include holding employees liable, when appropriate, for loss, damage, or destruction of Government property.

(b)

- (1) The official accountable record keeping, physical inventory, financial control, and reporting of the property subject to this clause shall be retained by the Government and accomplished by the installation Supply and Equipment Management Officer (SEMO) and Financial Management Officer. If this contract provides for the contractor to acquire property, title to which will vest in the Government, the following additional procedures apply:
 - (i) The contractor's purchase order shall require the vendor to deliver the property to the installation central receiving area;
 - (ii) The contractor shall furnish a copy of each purchase order, prior to delivery by the vendor, to the installation central receiving area;
 - (iii) The contractor shall establish a record of the property as required by FAR 45.5 and 1845.5 and furnish to the Industrial Property Officer a DD Form 1149 Requisition and Invoice/Shipping Document (or installation equivalent) to transfer accountability to the Government within 5 working days after receipt of the property by the contractor. The contractor is accountable for all contractor-acquired property until the property is transferred to the Government's accountability.
 - (iv) Contractor use of Government property at an off-site location and off-site subcontractor use require advance approval of the contracting officer and notification of the SEMO. The contractor shall assume accountability and financial reporting responsibility for such property. The contractor shall establish records and property control procedures and maintain the property in accordance with the requirements of FAR Part 45.5 until its return to the installation.
- (2) After transfer of accountability to the Government, the contractor shall continue to maintain such internal records as are necessary to

execute the user responsibilities identified in paragraph (a) and document the acquisition, billing, and disposition of the property. These records and supporting documentation shall be made available, upon request, to the SEMO and any other authorized representatives of the contracting officer.

(End of clause)

G.15 LIST OF INSTALLATION-ACCOUNTABLE PROPERTY AND SERVICES (NFS 1852.245-77) (JUL 1997) (JSC Version APR 2003)

In accordance with the clause 1852.245-71, Installation - Accountable Government Property the Contractor is authorized use of the types of property and services listed below, to the extent they are available, in the performance of this contract within the physical borders of the installation which may include buildings and space owned or directly leased by NASA in close proximity to the installation, if so designated by the Contracting Officer.

- (a) Office space, work area space, and utilities. Government telephones are available for official purposes only; pay telephones are available for contractor employees for unofficial calls.
- (b) General - and special-purpose equipment, including office furniture.
 - (1) Equipment to be made available is listed in Attachment J.7B. The Government retains accountability for this property under the clause at 1852.245-71, Installation-Accountable Government Property, regardless of its authorized location.
 - (2) If the contractor acquires property, title to which vests in the Government pursuant to other provisions of this contract, this property also shall become accountable to the Government upon its entry into Government records as required by the clause at 1852.245-71, Installation-Accountable Government Property.
 - (3) The Contractor shall not bring to the installation for use under this contract any property owned or leased by the Contractor, or other property that the Contractor is accountable for under any other Government contract, without the Contracting Officer's prior written approval.
- (c) Publications and blank forms stocked by the installation.
- (d) Safety and fire protection for Contractor personnel and facilities.
- (e) Installation service facilities:
 - 1. Audiovisual: Presentation services, sound services, Release Print Film Library, Film Repository, and loan of audiovisual equipment.

2. Automatic Data Processing (ADP) Services (onsite only): Generally, this includes access to large general-purpose computer systems, workstations, and the accessing media; i.e., terminals, printers, data communications, and consultation and training in the use of said systems. Unless otherwise specified in the contract, this does not include providing computer systems or ADP services for the Contractor business management, accounting, and administrative functions.
 3. Transportation: Shuttle bus service for Contractor employees within the parameters provided for Government employees.
 4. Disposal Services: Disposal services for excess onsite and offsite Contractor-held/Government-owned property.
 5. Fabrication Services: Fabrication services such as machining, sheet metal and welding, electronics, metal finishing, model and plastics, and precision cleaning.
 6. Photography, Processing, and Closed-Circuit Television: For technical and scientific photography, photographic processing, photographic sciences, and closed-circuit television.
 7. Pickup and Delivery of Official Mail: Within the Center and to and from the Albert Thomas Post Office, provided the mail is properly sealed and stamped. Such mail will be picked up or dropped from only one point as designated by JSC or, if preferred, JSC will provide a box in the central mailroom for the Contractor to pick up and deposit its mail.
- (f) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.
- (g) Cafeteria privileges for Contractor employees during normal operating hours.
- (h) Building maintenance for facilities occupied by Contractor personnel.
- (i) Moving and hauling for office moves, movement of large equipment, and delivery of supplies. Moving services shall be provided on-site, as approved by the Contracting Officer.
- (j) The user responsibilities of the Contractor are defined in paragraph (a) of the clause at 1852.245-71, Installation-Accountable Government Property.

(End of Clause)

G.16 REPAIR OF GOVERNMENT PROPERTY (JSC 52.245-91) (JUN 1986)

When removal of Government-owned property from its place of use for repair is necessary, the Contractor must prepare a JSC Form 1318 prior to removing the

equipment. The form and instructions regarding its use are available from the Property and Equipment branch, Building 419, Room 162, phone number 483-6524. The repaired Government property is to be returned to the location from which it was removed unless otherwise directed by the Government

(End of Clause)

[END OF SECTION]

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

None included by reference.

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

CLAUSE NUMBER	DATE	TITLE
1852.208-81	NOV 2004	RESTRICTIONS ON PRINTING AND DUPLICATING
1852.223-70	APR 2002	SAFETY AND HEALTH
1852.223-75	FEB 2002	MAJOR BREACH OF SAFETY OR SECURITY
1852.225-70	FEB 2000	EXPORT LICENSES (ALT I)
1852.228-72	SEPT 1993	CROSS-WAIVER OF LIABILITY FOR SPACE SHUTTLE SERVICES
1852.228-76	DEC 1994	CROSS-WAIVER OF LIABILITY FOR SPACE STATION ACTIVITIES
1852.242-72	AUG 1992	OBSERVANCE OF LEGAL HOLIDAYS

H.2 TASK ORDERING PROCEDURE

- (a) Only the Contracting Officer may issue task orders to the Contractor, providing specific authorization or direction to perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under this contract in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.
- (b) Prior to issuing a task order, the Contracting Officer may provide the Contractor with the following data:
 - (1) A functional description of the work identifying the objectives or results desired from the contemplated task order.

- (2) Proposed performance standards to be used as criteria for determining whether the work requirements have been met.
 - (3) A request for a task plan from the Contractor to include the technical approach, period of performance, appropriate cost information, and any other information required to determine the reasonableness of the Contractor's proposal.
- (c) Within 10 calendar days after receipt of the Contracting Officer's request, the Contractor shall submit a task plan conforming to the request.
- (d) After review and any necessary discussions, as applicable, the Contracting Officer may issue a task order to the Contractor containing, as a minimum, the following:
 - (1) Date of the order.
 - (2) Contract number and order number.
 - (3) Description of Work.
 - (4) Performance standards, acceptance criteria and quality assurance standards where appropriate.
 - (5) Maximum dollar amount and maximum number of contract labor authorized.
 - (6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.
 - (7) Delivery/performance schedule including start and end dates.
 - (8) If contract funding is by individual task order, accounting and appropriation data.
- (e) The Contracting Officer may amend tasks in the same manner in which they were issued.
- (f) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.
- (g) Each task order shall require the Contractor to acknowledge receipt and acceptance of the task order within **2 working days** after receipt. If the Contractor cannot comply with a task order requirement, the Contractor shall indicate in his acknowledgment, the changes required prior to his acceptance. Any differences must be resolved between the parties and the order modified to reflect the agreement.

(End of Clause)

H.3 FEDERAL AUTOMOTIVE STATISTICAL TOOL REPORTING (NFS 1852.223-76) (JUL 2003)

If authorized to operate Government-owned or -leased vehicles, including interagency fleet management system (IFMS) vehicles or related services in performance of this contract, the Contractor shall report the data describing vehicle usage required by the Federal Automotive Statistical Tool (FAST) by October 15 of each year. FAST is accessed through <http://fastweb.inel.gov/>.

(End of Clause)

H.4 KEY PERSONNEL AND FACILITIES (NFS 1852.235-71) (MAR 1989)

- (a) The personnel and/or facilities listed below (or specified in the contract Schedule) are considered essential to the work being performed under this contract. Before removing, replacing, or diverting any of the listed or specified personnel or facilities, the Contractor shall (1) notify the Contracting Officer reasonably in advance and (2) submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.
- (b) The Contractor shall make no diversion without the Contracting Officer's written consent; provided, that the Contracting Officer may ratify in writing the proposed change, and that ratification shall constitute the Contracting Officer's consent required by this clause.
- (c) The list of personnel and/or facilities (shown below or as specified in the contract Schedule) may, with the consent of the contracting parties, be amended from time to time during the course of the contract to add or delete personnel and/or facilities.

The personnel and/or facilities considered essential to this contract include:

Personnel

Position

bf

bf

(End of Clause)

H.5 REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS (JSC 52.209-90) (SEPT 1988)

This contract incorporates Section K, Representations, Certifications, and Other Statements of Offerors, as set forth in the contractor's proposal in response to **RFP NNJ05106317R** dated _____ by reference, with the same force and effect as if it were given in full text.

(End of Clause)

H.6 SMALL BUSINESS SUBCONTRACTING GOALS (JSC 52.219-90) (JAN 2003)

For purposes of this clause, the terms, "HUBZone Small Business Concern," "Small Disadvantaged Business Concern," "Veteran-Owned Small Business Concern," "Service-Disabled, Veteran-Owned Small Business Concern," "Women-Owned Small Business Concern," and "Historically Black College or University (HBCU)" are defined in paragraph 2.101 of the Federal Acquisition Regulation.

The total small business goal, expressed, as a percent of total contract value, is 25 percent, including options. The small business percentage goal, (25 percent), includes the following goals expressed as a percent of total contract value:

Small Disadvantaged Business (SDB) Concerns	10.0%
Women Owned Small Business (WOSB) Concerns	5.0%
HUBZone Business Small Business Concerns	2.0%
Veteran-Owned Small Business (VOSB) Concerns	1.0%
Service-Disabled, Veteran-Owned Small Business Concerns	1.0%
Historically Black College or University/Minority Institutions	1.0%

(End of Clause)

H.7 (LIMITED) RELEASE OF CONTRACTOR CONFIDENTIAL BUSINESS INFORMATION (CBI) (JSC 52.227-91) (MAY 2002)

(a) NASA may find it necessary to release information submitted by the contractor pursuant to the provisions of this contract, to individuals not employed by NASA. Business information that would ordinarily be entitled to confidential treatment may be included in the information released to these individuals. Accordingly, by signature on this contract, the contractor hereby consents to a limited release of its confidential business information (CBI).

(b) Possible circumstances where the Agency may release the contractor's CBI include the following:

- (1) To other Agency contractors and subcontractors, and their employees tasked with assisting the Agency in handling and processing information and documents in the administration of Agency contracts,

such as providing post-award audit support and specialized technical support to NASA.

- (2) To NASA contractors and subcontractors, and their employees engaged in information systems analysis, development, operation, and maintenance, including performing data processing and management functions for the Agency.
- (c) NASA recognizes its obligation to protect the contractor from competitive harm that could result from the release of such information to a competitor. Except where otherwise provided by law, NASA will permit the limited release of CBI under subparagraphs (1) or (2) only pursuant to non-disclosure agreements signed by the assisting contractor or subcontractor, and their individual employees who may require access to the CBI to perform the assisting contract.
- (d) NASA's responsibilities under the Freedom of Information Act are not affected by this clause.
- (e) The contractor agrees to include this clause, including this paragraph (e), in all subcontracts at all levels awarded pursuant to this contract that require the furnishing of CBI by the subcontractor.

(End of Clause)

H.8 PROVIDING FACILITY ITEMS (JSC 52.245-97) (FEB 2003)

The purpose of this clause is to set forth the parties' intent regarding their respective responsibilities for providing facility items under this contract. The parties accordingly agree as follows:

- (a) "Provide," as used in this clause, has the same meaning as set forth in NASA FAR Supplement 1845.301. "Facilities," as used in this clause, has the same meaning as set forth in FAR 45.301.
- (b) The Government shall provide to the contractor the facilities identified in Attachment J.7B to his contract for use in performance of this contract.
- (c) The contractor shall replace any of the existing facilities identified in (b) above that reach the end of their useful life during the contract period or which are beyond economical maintenance or repair, if the facilities are still needed for contract performance. Such replacements shall be made with contractor-owned facilities and shall not be a direct charge to the contract.
- (d) The contractor shall not acquire facility items for the Government, unless specifically authorized by the contract or consent has been obtained in writing from the contracting officer pursuant to FAR 45.302-1(a). The contractor agrees to provide all facilities necessary for performance of this contract except as provided in (b) above.

(End of Clause)

H.9 CONTRACT ADJUSTMENT (Applicable to Completion Form Sections of the SOW as indicated)

- (a) The parties agree that, notwithstanding the provisions of the "Changes" clause, no change made pursuant to such clause shall give rise to an equitable adjustment in the estimated cost or fee when said changes cause an increase or decrease of \$100,000 or less in the estimated cost of this contract. Each change shall be controlling making this determination, and such change shall not, for purposes of determining the applicability of this clause, be added to any other change(s). The parties recognize that several changes may be grouped together in a bilateral contract modification for definitization; however, the dollar value of each individual change will be controlling in determining whether or not an equitable adjustment is in order.
- (b) The elements of the completion form work described in Sections 3.0 and 10.0 of the SOW are in some instances accompanied by workload estimates (e.g., numbers of meetings per year, numbers of test samples per year). These data represent the Government's estimates of the level of services required, and are only intended to reflect the amount of activity anticipated for those elements of work. Workload estimates do not constitute a limitation on the contractor's obligation to perform work in the areas to which they relate. The fact that the contractor has performed work that equals the workload estimate(s) shall not relieve the contractor of its obligation to continue to perform such work to the extent it is required by the Government.

(End of Clause)

H.10 POTENTIAL CONFLICT OF INTEREST

- (a) In performing work under this contract, the Contractor may be required to inspect, evaluate, assess, critique, review or perform other similar services with respect to products or services provided by the Contractor under other NASA contracts. The occurrence of situations of this kind could possibly cause the Contractor's judgment to be influenced favorably toward such products or services in performing S&MA tasks under this contract. In addition, the Contractor may be required to perform tasks, which will affect the quantum or nature of work to be performed by the Contractor under other Government contracts. In order to eliminate or adequately mitigate any conflict of interest which may arise from either of these situations, the prime contractor agrees that it will: (a) provide the Contracting Officer immediate notice in any case where the Contractor learns that it or its subcontractors will either be (i) performing inspection, evaluation, or similar work concerning products and services which Contractor provides to NASA under other NASA contracts, or (ii) developing requirements for the products or services which Contractor may provide under another contract; (b) within 7 calendar days after providing such notice to the Government, submit to the Contracting Officer for approval a proposed plan of action for eliminating or adequately

mitigating the conflict identified (and subsequently submit any modifications to such plan as may be requested by the Contracting Officer); and (c) implement the plan of action as approved by the Contracting Officer. The Contractor shall not undertake the performance of work for which notice has been given until the prime Contractor's plan has been approved, unless the Contracting Officer authorized the prime Contractor to proceed with the work pending approval. Where the term "Contractor" is used in this clause, it shall be deemed to mean the prime contractor, and any subcontractor, except in the instance where the term "prime contractor" is specifically used.

- (b) Notwithstanding any other provision of this clause, if the Contractor develops complete specifications or statements of work under this contract for nondevelopmental items, and such specifications or statements of work are incorporated into a subsequent NASA solicitation, the Contractor shall be ineligible to furnish the items described in such solicitation. This restriction shall remain in effect for a reasonable time, as agreed to by the Contracting Officer and the prime Contractor (or determined by the Contracting Officer in the event the parties are unable to agree), sufficient to avoid unfair competitive advantage or potential bias. The Contractor shall not be eligible in any case to compete for the initial contract, including any options, for nondevelopmental items for which Contractor has prepared complete specifications or statements of work. NASA shall not unilaterally require the prime Contractor to prepare such specifications or statements or work under this contract.
- (c) In addition to any data which the Contractor may be given or have access to that is marked and subject to subparagraph (d)(2) of the "Rights in Data—General" clause of this contract, it is also anticipated that in the performance of this contract, the Contractor may generate, have access to, or be provided for review for the performance of the contract tasks, data which is intended to be used, or may reasonably be expected to be used, in a future NASA procurement. Such data may include, by way of illustration but not limitation, statement of requirements, draft statements of work, draft specifications or data relating to breadboards or engineering models. The Contractor agrees that it will not use, copy or disclose such data, or any other data of the same general kind, except to the extent necessary to perform the work under this contract, and will not make any other use or disclosure of such data without specific written permission of the Contracting Officer.
- (d) To the extent that the work under this contract requires access to proprietary, business confidential, or financial data or other companies, and as long as these data remain proprietary or confidential, the Contractor shall protect these data from unauthorized use and disclosure and agrees not to use them to compete with other companies.
- (e) The Contractor agrees to include the substantive provisions of this clause in any subcontracts, appropriately modified to reflect a prime-subcontract relationship.

(End of Clause)

H.11 NO COST DELIVERABLES

The contractor shall deliver, at no cost to this contract or any other Government contract, the items listed below as part of the contract deliverables.

Best Value No Cost Item	Description	Delivery Schedule	Documentation
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bt

(End of Clause)

H.12 ADMINISTRATIVE LEAVE (SEP 2008)

(a) When the NASA installation grants administrative leave to its Government employees (e.g., as a result of inclement weather, potentially hazardous conditions, or other special circumstances), the following personnel should also be dismissed upon notification of a center closure provided by the Contracting Officer:

1. Contractor personnel working on-site; and
2. Contractor personnel dedicated to the contract effort who are
 - A. Working off-site within 10 miles of JSC; and
 - B. Unable to perform their NASA contract duties at their off-site location because their normal place of business has been or is expected to be negatively impacted by an emergency situation (e.g. has sustained damage, has been evacuated, etc.).

However, the contractor shall provide sufficient on-site personnel to perform round-the-clock requirements of critical work already in process, unless otherwise instructed by the Contracting Officer or authorized representative.

(b) Administrative leave granted under this clause shall be subject to modification or termination by the Contracting Officer and in all instances shall be subject to the

availability of funds. The cost of salaries and wages to the Contractor for the period of any such excused absence shall be a reimbursable item of cost under this contract for effected employees in accordance with the Contractor's established accounting policy.

PART II – CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 CLAUSES INCORPORATED BY REFERENCE (FAR 52.252-2) (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

FAR: <http://www.arnet.gov/far>

NASA FAR: <http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>

JSC PI: http://officeofprocurement.jsc.nasa.gov/jpiprod/jpi_doc.htm

(End of Clause)

I.2 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
52.202-1	JUL 2004	DEFINITIONS
52.203-3	APR 1984	GRATUITIES
52.203-5	APR 1984	COVENANT AGAINST CONTINGENT FEES
52.203-6	JUL 1995	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT
52.203-7	JUL 1995	ANTI-KICKBACK PROCEDURES
52.203-8	JAN 1997	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-10	JAN 1997	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-12	SEPT 2005	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
52.204-2	AUG 1996	SECURITY REQUIREMENTS
52.204-4	AUG 2000	PRINTED OR COPIED DOUBLED-SIDED ON RECYCLED PAPER

52.204-7	OCT 2003	CENTRAL CONTRACTOR REGISTRATION
52.209-6	JAN 2005	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT
52.211-15	SEP 1990	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS
52.215-2	JUN 1999	AUDIT AND RECORDS – NEGOTIATION
52.215-8	OCT 1997	ORDER OF PRECEDENCE – UNIFORM CONTRACT FORMAT
52.215-11	OCT 1997	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA - MODIFICATIONS
52.215-13	OCT 1997	SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS
52.215-15	OCT 2004	PENSION ADJUSTMENTS AND ASSET REVERSIONS
52.215-17	OCT 1997	WAIVER OF FACILITIES COST OF MONEY
52.215-18	JUL 2005	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS
52.215-19	OCT 1997	NOTIFICATION OF OWNERSHIP CHANGES
52.215-21	OCT 1997	REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA- MODIFICATIONS (ALTERNATE II) (OCT 1997)
52.216-7	DEC 2002	ALLOWABLE COST AND PAYMENT
52.217-8	NOV 1999	OPTION TO EXTEND SERVICES (NOTICE TO EXTEND MUST BE AT LEAST 30 DAYS PRIOR CONTRACT COMPLETION).
52.219-4	JUL 2005	NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS
52.219-8	MAY 2004	UTILIZATION OF SMALL BUSINESS CONCERNS
52.219-9	JUL 2005	SMALL BUSINESS SUBCONTRACTING PLAN (ALT II) (OCT 2001)
52.219-16	JAN 1999	LIQUIDATED DAMAGES – SUBCONTRACTING PLAN
52.219-23	SEPT 2005	NOTICE OF PRICE EVALUATION ADJUSTMENT FOR SMALL DISADVANTAGED BUSINESS

CONCERNS (10%)		
52.219-25	OCT 1999	SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM – DISADVANTAGED STATUS AND REPORTING
52.222-1	FEB 1997	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES
52.222-3	JUN 2003	CONVICT LABOR
52.222-4	JUL 2005	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT —OVERTIME COMPENSATION
52.222-21	FEB 1999	PROHIBITION OF SEGREGATED FACILITIES
52.222-26	APR 2002	EQUAL OPPORTUNITY
52.222-35	DEC 2001	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-36	JUN 1998	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES
52.222-37	DEC 2001	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-39	DEC 2004	NOTIFICATION OF EMPLOYEE RIGHTS CONCERNING PAYMENT OF UNION DUES OR FEES
52.222-41	JUL 2005	SERVICE CONTRACT ACT OF 1965, AS AMENDED
52.223-5	AUG 2003	POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (ALTERNATE I) (AUG 2003) (ALTERNATE II) (AUG 2003)
52.223-10	AUG 2000	WASTE REDUCTION PROGRAM
52.223-14	AUG 2003	TOXIC CHEMICAL RELEASE REPORTING
52.224-1	APR 1984	PRIVACY ACT NOTIFICATION
52.224-2	APR 1984	PRIVACY ACT
52.225-13	MAR 2005	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES
52.227-1	JUL 1995	AUTHORIZATION AND CONSENT
52.227-2	AUG 1996	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
52.227-16	JUN 1987	ADDITIONAL DATA REQUIREMENTS

52.228-7	MAR 1996	INSURANCE – LIABILITY TO THIRD PERSONS
52.229-10	APR 2003	STATE OF NEW MEXICO GROSS RECEIPTS AND COMPENSATING TAX
52.230-2	APR 1998	COST ACCOUNTING STANDARDS
52.230-6	APR 2005	ADMINISTRATION OF COST ACCOUNTING STANDARDS
52.232-9	APR 1984	LIMITATION ON WITHHOLDING OF PAYMENTS
52.232-17	JUN 1996	INTEREST
52.232-18	APR 1984	AVAILABILITY OF FUNDS
52.232-20	APR 1984	LIMITATION OF COST
52.232-22	APR 1984	LIMITATION OF FUNDS
52.232-23	JAN 1986	ASSIGNMENT OF CLAIMS
52.232-25	OCT 2003	PROMPT PAYMENT (ALTERNATE I) (FEB 02)
52.232-34	MAY 1999	PAYMENT BY ELECTRONIC FUNDS TRANSFER – OTHER THAN CENTRAL CONTRACTOR REGISTRATION
52.233-1	JUL 2002	DISPUTES (ALTERNATE I) (DEC 1991)
52.233-3	AUG 1996	PROTEST AFTER AWARD (ALTERNATE I) (JUN 1985)
52.233-4	OCT 2004	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM
52.237-2	APR 1984	PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION
52.237-3	JAN 1991	CONTINUITY OF SERVICES
52.239-1	AUG 1996	PRIVACY OR SECURITY SAFEGUARDS
52.242-1	APR 1984	NOTICE OF INTENT TO DISALLOW COSTS
52.242-3	MAY 2001	PENALTIES FOR UNALLOWABLE COSTS
52.242-4	JAN 1997	CERTIFICATION OF FINAL INDIRECT COSTS
52.242-13	JUL 1995	BANKRUPTCY
52.243-2	AUG 1987	CHANGES – COST-REIMBURSEMENT (ALTERNATE II) (APR 1984)
52.244-2	AUG 1998	SUBCONTRACTS (ALTERNATE I) (MAR 2005)
52.244-5	DEC 1996	COMPETITION IN SUBCONTRACTING
52.244-6	DEC 2004	SUBCONTRACTS FOR COMMERCIAL ITEMS

52.245-5	MAY 2004	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) (DEVIATION) (AS MODIFIED BY NASA PIC 99-15)
52.245-19	APR 1984	GOVERNMENT PROPERTY FURNISHED "AS IS"
52.246-25	FEB 1997	LIMITATION OF LIABILITY – SERVICES
52.247-1	APR 1984	COMMERCIAL BILL OF LADING NOTATIONS
52.247-63	JUN 2003	PREFERENCE FOR U.S. –FLAG AIR CARRIERS
52.248-1	FEB 2000	VALUE ENGINEERING
52.249-6	MAY 2004	TERMINATION (COST-REIMBURSEMENT)
52.249-14	APR 1984	EXCUSABLE DELAYS
52.251-1	APR 1984	GOVERNMENT SUPPLY SOURCES
52.251-2	JAN 1991	INTERAGENCY FLEET MANAGEMENT SYSTEMS VEHICLES AND RELATED SERVICES
52.253-1	JAN 1991	COMPUTER GENERATED FORMS

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

CLAUSE NUMBER	DATE	TITLE
1852.216-89	JUL 1997	ASSIGNMENT AND RELEASE FORMS
1852.219-74	SEPT 1990	USE OF RURAL AREA SMALL BUSINESSES
1852.219-75	MAY 1999	SMALL BUSINESS SUBCONTRACTING REPORTING
1852.219-76	JUL 1997	NASA 8 PERCENT GOAL
1852.223-74	MAR 1996	DRUG-AND ALCOHOL-FREE WORKFORCE
1852.228-75	OCT 1988	MINIMUM INSURANCE COVERAGE
1852.237-70	DEC 1988	EMERGENCY EVACUATION PROCEDURES
1852.242-78	APR 2001	EMERGENCY MEDICAL SERVICES AND EVACUATION
1852.243-71	MAR 1997	SHARED SAVINGS
1852.245-70	JUL 1997	CONTRACTOR REQUESTS FOR GOVERNMENT-OWNED EQUIPMENT

(End of Clause)

I.3 WHISTLEBLOWER PROTECTIONS UNDER THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009. (FAR 52.203-15) (MAR 2009)

- (a) The Contractor shall post notice of employees rights and remedies for whistleblower protections provided under section 1553 of the American Recovery and Reinvestment Act of 2009 (Pub. L. 111-5).
- (b) The Contractor shall include the substance of this clause including this paragraph (b) in all subcontracts.

(End of clause)

I.4 APPROVAL OF CONTRACT (FAR 52.204-1) (DEC 1989)

This contract is subject to the written approval of the Johnson Space Center Procurement Officer and shall not be binding until so approved.

(End of Clause)

I.5 AMERICAN RECOVERY AND REINVESTMENT ACT – REPORTING REQUIREMENTS (FAR 52.204-11) (MAR 2009)

- (a) Definitions. As used in this clause—

“Contract”, as defined in FAR 2.101, means a mutually binding legal relationship obligating the seller to furnish the supplies or services (including construction) and the buyer to pay for them. It includes all types of commitments that obligate the Government to an expenditure of appropriated funds and that, except as otherwise authorized, are in writing. In addition to bilateral instruments, contracts include (but are not limited to) awards and notices of awards; job orders or task letters issued under basic ordering agreements; letter contracts; orders, such as purchase orders, under which the contract becomes effective by written acceptance or performance; and bilateral contract modifications. Contracts do not include grants and cooperative agreements covered by 31 U.S.C. 6301, et seq. For discussion of various types of contracts, see FAR Part 16.

“First-tier subcontract” means a subcontract awarded directly by a Federal Government prime contractor whose contract is funded by the Recovery Act.

“Jobs created” means an estimate of those new positions created and filled, or previously existing unfilled positions that are filled, as a result of funding by the American Recovery and Reinvestment Act of 2009 (Recovery Act). This definition covers only prime contractor positions established in the United States and outlying areas (see definition in FAR 2.101). The number shall be expressed as “full-time equivalent” (FTE), calculated cumulatively as all hours worked divided by the total number of hours in a full-time schedule, as defined by the contractor. For instance,

two full-time employees and one part-time employee working half days would be reported as 2.5 FTE in each calendar quarter.

"Jobs retained" means an estimate of those previously existing filled positions that are retained as a result of funding by the American Recovery and Reinvestment Act of 2009 (Recovery Act). This definition covers only prime contractor positions established in the United States and outlying areas (see definition in FAR 2.101). The number shall be expressed as "full-time equivalent" (FTE), calculated cumulatively as all hours worked divided by the total number of hours in a full-time schedule, as defined by the contractor. For instance, two full-time employees and one part-time employee working half days would be reported as 2.5 FTE in each calendar quarter.

"Total compensation" means the cash and noncash dollar value earned by the executive during the contractor's past fiscal year of the following (for more information see 17 CFR 229.402(c)(2)):

- (1) Salary and bonus.
 - (2) Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
 - (3) Earnings for services under non-equity incentive plans. Does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
 - (4) Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.
 - (5) Above-market earnings on deferred compensation which is not tax-qualified.
 - (6) Other compensation. For example, severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property if the value for the executive exceeds \$10,000.
- (b) This contract requires the contractor to provide products and/or services that are funded under the American Recovery and Reinvestment Act of 2009 (Recovery Act). Section 1512(c) of the Recovery Act requires each contractor to report on its use of Recovery Act funds under this contract. These reports will be made available to the public.
 - (c) Reports from contractors for all work funded, in whole or in part, by the Recovery Act, and for which an invoice is submitted prior to June 30, 2009, are due no later than July 10, 2009. Thereafter, reports shall be submitted no later than the 10th day after the end of each calendar quarter.
 - (d) The Contractor shall report the following information, using the online reporting tool available at www.FederalReporting.gov.

- (1) The Government contract and order number, as applicable.
- (2) The amount of Recovery Act funds invoiced by the contractor for the reporting period. A cumulative amount from all the reports submitted for this action will be maintained by the government's on-line reporting tool.
- (3) A list of all significant services performed or supplies delivered, including construction, for which the contractor invoiced in this calendar quarter.
- (4) Program or project title, if any.
- (5) A description of the overall purpose and expected outcomes or results of the contract, including significant deliverables and, if appropriate, associated units of measure.
- (6) An assessment of the contractor's progress towards the completion of the overall purpose and expected outcomes or results of the contract (i.e., not started, less than 50 percent completed, completed 50 percent or more, or fully completed). This covers the contract (or portion thereof) funded by the Recovery Act.
- (7) A narrative description of the employment impact of work funded by the Recovery Act. This narrative should be cumulative for each calendar quarter and only address the impact on the contractor's workforce. At a minimum, the contractor shall provide—
 - (i) A brief description of the types of jobs created and jobs retained in the United States and outlying areas (see definition in FAR 2.101). This description may rely on job titles, broader labor categories, or the contractor's existing practice for describing jobs as long as the terms used are widely understood and describe the general nature of the work; and
 - (ii) An estimate of the number of jobs created and jobs retained by the prime contractor, in the United States and outlying areas. A job cannot be reported as both created and retained.
- (8) Names and total compensation of each of the five most highly compensated officers of the Contractor for the calendar year in which the contract is awarded if—
 - (i) In the Contractor's preceding fiscal year, the Contractor received—
 - (A) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(B) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(ii) The public does not have access to information about the compensation of the senior executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986.

(9) For subcontracts valued at less than \$25,000 or any subcontracts awarded to an individual, or subcontracts awarded to a subcontractor that in the previous tax year had gross income under \$300,000, the Contractor shall only report the aggregate number of such first tier subcontracts awarded in the quarter and their aggregate total dollar amount.

(10) For any first-tier subcontract funded in whole or in part under the Recovery Act, that is over \$25,000 and not subject to reporting under paragraph 9, the contractor shall require the subcontractor to provide the information described in (i), (ix), (x), and (xi) below to the contractor for the purposes of the quarterly report. The contractor shall advise the subcontractor that the information will be made available to the public as required by section 1512 of the Recovery Act. The contractor shall provide detailed information on these first-tier subcontracts as follows:

(i) Unique identifier (DUNS Number) for the subcontractor receiving the award and for the subcontractor's parent company, if the subcontractor has a parent company.

(ii) Name of the subcontractor.

(iii) Amount of the subcontract award.

(iv) Date of the subcontract award.

(v) The applicable North American Industry Classification System (NAICS) code.

(vi) Funding agency.

(vii) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.

(viii) Subcontract number (the contract number assigned by the prime contractor).

- (ix) Subcontractor's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district if applicable.
- (x) Subcontract primary performance location including street address, city, state, and country. Also include the nine-digit zip code and congressional district if applicable.
- (xi) Names and total compensation of each of the subcontractor's five most highly compensated officers, for the calendar year in which the subcontract is awarded if—
 - (A) In the subcontractor's preceding fiscal year, the subcontractor received—
 - (1) 80 percent or more of its annual gross revenues in Federal contracts (and subcontracts), loans, grants (and subgrants), and cooperative agreements; and
 - (2) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants), and cooperative agreements; and
 - (B) The public does not have access to information about the compensation of the senior executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986.

(End of clause)

**I.6 AUDIT AND RECORD – NEGOTIATION (FAR 52.215-2 (MAR 2009)
ALTERNATE 1 (MAR 2009)**

- (a) As used in this clause, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.
- (b) Examination of costs. If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price redeterminable contract, or any combination of these, the Contractor shall maintain and the Contracting Officer, or an authorized representative of the Contracting Officer, shall have the right to examine and audit all records and other evidence sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this contract. This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract.

- (c) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with any pricing action relating to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to—
 - (1) The proposal for the contract, subcontract, or modification;
 - (2) The discussions conducted on the proposal(s), including those related to negotiating;
 - (3) Pricing of the contract, subcontract, or modification; or
 - (4) Performance of the contract, subcontract or modification.
- (d) Comptroller General.—
 - (1) The Comptroller General of the United States, or an authorized representative, shall have access to and the right to examine any of the Contractor's directly pertinent records involving transactions related to this contract or a subcontract hereunder and to interview any current employee regarding such transactions.
 - (2) This paragraph may not be construed to require the Contractor or subcontractor to create or maintain any record that the Contractor or subcontractor does not maintain in the ordinary course of business or pursuant to a provision of law.
- (e) Reports. If the Contractor is required to furnish cost, funding, or performance reports, the Contracting Officer or an authorized representative of the Contracting Officer shall have the right to examine and audit the supporting records and materials, for the purpose of evaluating—
 - (1) The effectiveness of the Contractor's policies and procedures to produce data compatible with the objectives of these reports; and
 - (2) The data reported.
- (f) Availability. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence described in paragraphs (a), (b), (c), (d), and (e) of this clause, for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in Subpart 4.7, Contractor Records Retention, of the Federal Acquisition Regulation (FAR), or for any longer period required by statute or by other clauses of this contract. In addition—

- (1) If this contract is completely or partially terminated, the Contractor shall make available the records relating to the work terminated until 3 years after any resulting final termination settlement; and
 - (2) The Contractor shall make available records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to this contract until such appeals, litigation, or claims are finally resolved.
- (g) The Contractor shall insert a clause containing all the terms of this clause, including this paragraph (g), in all subcontracts under this contract that exceed the simplified acquisition threshold, and—
- (1) That are cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable type or any combination of these;
 - (2) For which cost or pricing data are required; or
 - (3) That require the subcontractor to furnish reports as discussed in paragraph (e) of this clause.

The clause may be altered only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

(End of clause)

Alternate I (Mar 2009). Substitute the following paragraphs (d)(1) and (g) for paragraphs (d)(1) and (g) of the basic clause:

(d) Comptroller General or Inspector General

- (1) The Comptroller General of the United States, an appropriate Inspector General appointed under section 3 or 8G of the Inspector General Act of 1978 (5 U.S.C. App.), or an authorized representative of either of the foregoing officials, shall have access to and the right to—
 - (i) Examine any of the Contractor's or any subcontractor's records that pertain to and involve transactions relating to this contract or a subcontract hereunder; and
 - (ii) Interview any officer or employee regarding such transactions.
- (g) (1) Except as provided in paragraph (g)(2) of this clause, the Contractor shall insert a clause containing all the terms of this clause, including this paragraph (g), in all subcontracts under this contract. The clause may be altered only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

- (2) The authority of the Inspector General under paragraph (d)(1)(ii) of this clause does not flow down to subcontracts.

I.7 PAYMENT FOR OVERTIME PREMIUMS (FAR 52.222-2) (JUL 1990)

- (a) The use of overtime is authorized under this contract if the overtime premium does not exceed **\$425,000.00** or the overtime premium is paid for work --

- (1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks of a sporadic nature;
- (2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;
- (3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or
- (4) That will result in lower overall costs to the Government.

- (b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall --

- (1) Identify the work unit; e.g., department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;
- (2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;
- (3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and
- (4) Provide reasons why the required work cannot be performed by using multishift operations or by employing additional personnel.

* Insert either "zero" or the dollar amount agreed to during negotiations. The inserted figure does not apply to the exceptions in subparagraph (a)(1) through (a)(4) of the clause.

(End of Clause)

I.8 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (FAR 52.222-42) (MAY 1989)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

This Statement is for Information Only: It is not a Wage Determination

Employee Class

Monetary Wage-Fringe Benefits

SEE ATTACHMENT J.6, WAGE DETERMINATION

(End of Clause)

I.9 DRUG-FREE WORKPLACE (FAR 52.223-6) (MAY 2001)

(a) *Definitions.* As used in this clause --

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 -- 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract where employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

- (b) The Contractor, if other than an individual, shall -- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration --
- (1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;
 - (2) Establish an ongoing drug-free awareness program to inform such employees about --
 - (i) The dangers of drug abuse in the workplace;
 - (ii) The Contractor's policy of maintaining a drug-free workplace;
 - (iii) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
 - (3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;
 - (4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will --
 - (i) Abide by the terms of the statement; and
 - (ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction;
 - (5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;
 - (6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:
 - (i) Taking appropriate personnel action against such employee, up to and including termination; or

- (ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and
- (7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) through (b)(6) of this clause.
- (c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.
- (d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract or default, and suspension or debarment.

(End of Clause)

I.10 Rights in Data -- General (FAR 52.227-14) (Jun 1987) (ALT V) (Jun 1987) (as modified by NFS 1852.227-14)

(a) Definitions.

"Computer software," as used in this clause, means computer programs, computer data bases, and documentation thereof.

"Data," as used in this clause, means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

"Form, fit, and function data," as used in this clause, means data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability, as well as data identifying source, size, configuration, mating, and attachment characteristics, functional characteristics, and performance requirements; except that for computer software it means data identifying source, functional characteristics, and performance requirements but specifically excludes the source code, algorithm, process, formulae, and flow charts of the software.

"Limited rights," as used in this clause, means the rights of the Government in limited rights data as set forth in the Limited Rights Notice of subparagraph (g)(2) if included in this clause.

"Limited rights data," as used in this clause, means data (other than computer software) that embody trade secrets or are commercial or

financial and confidential or privileged, to the extent that such data pertain to items, components, or processes developed at private expense, including minor modifications thereof.

"Restricted computer software," as used in this clause, means computer software developed at private expense and that is a trade secret; is commercial or financial and is confidential or privileged; or is published copyrighted computer software, including minor modifications of such computer software.

"Restricted rights," as used in this clause, means the rights of the Government in restricted computer software, as set forth in a Restricted Rights Notice of subparagraph (g)(3) if included in this clause, or as otherwise may be provided in a collateral agreement incorporated in and made part of this contract, including minor modifications of such computer software.

"Technical data," as used in this clause, means data (other than computer software) which are of a scientific or technical nature.

"Unlimited rights," as used in this clause, means the right of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.

(b) *Allocation of rights.*

(1) Except as provided in paragraph (c) of this clause regarding copyright, the Government shall have unlimited rights in --

- (i) Data first produced in the performance of this contract;
- (ii) Form, fit, and function data delivered under this contract;
- (iii) Data delivered under this contract (except for restricted computer software) that constitute manuals or instructional and training material for installation, operation, or routine maintenance and repair of items, components, or processes delivered or furnished for use under this contract; and
- (iv) All other data delivered under this contract unless provided otherwise for limited rights data or restricted computer software in accordance with paragraph (g) of this clause.

(2) The Contractor shall have the right to --

- (i) Use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, unless provided otherwise in paragraph (d) of this clause;

- (ii) Protect from unauthorized disclosure and use those data which are limited rights data or restricted computer software to the extent provided in paragraph (g) of this clause;
- (iii) Substantiate use of, add or correct limited rights, restricted rights, or copyright notices and to take other appropriate action, in accordance with paragraphs (e) and (f) of this clause; and
- (iv) Establish claim to copyright subsisting in data first produced in the performance of this contract to the extent provided in subparagraph (c)(1) of this clause.

(c) *Copyright --*

- (1) *Data first produced in the performance of this contract.* Unless provided otherwise in paragraph (d) of this clause, the Contractor may establish, without prior approval of the Contracting Officer, claim to copyright subsisting in scientific and technical articles based on or containing data first produced in the performance of this contract and published in academic, technical or professional journals, symposia proceedings or similar works. The prior, express written permission of the Contracting Officer is required to establish claim to copyright subsisting in all other data first produced in the performance of this contract. When claim to copyright is made, the Contractor shall affix the applicable copyright notices of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. For data other than computer software the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government. For computer software, the Contractor grants to the Government and others acting in its behalf, a paid-up nonexclusive, irrevocable worldwide license in such copyrighted computer software to reproduce, prepare derivative works, and perform publicly and display publicly by or on behalf of the Government.
- (2) *Data not first produced in the performance of this contract.* The Contractor shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this contract any data not first produced in the performance of this contract and which contains the copyright notice of 17 U.S.C. 401 or 402, unless the Contractor identifies such data and grants to the Government, or acquires on its behalf, a license of the same scope as set forth in subparagraph (c)(1) of this clause; *provided*, however, that if such data are computer software the Government shall acquire a copyright license as set forth in subparagraph (g)(3) of this clause if included in

this contract or as otherwise may be provided in a collateral agreement incorporated in or made part of this contract.

- (3) *Removal of copyright notices.* The Government agrees not to remove any copyright notices placed on data pursuant to this paragraph (c), and to include such notices on all reproductions of the data.

(d) *Release, publication and use of data.*

- (1) The Contractor shall have the right to use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, except to the extent such data may be subject to the Federal export control or national security laws or regulations, or unless otherwise provided in this paragraph of this clause or expressly set forth in this contract.

- (2) The Contractor agrees that to the extent it receives or is given access to data necessary for the performance of this contract which contain restrictive markings, the Contractor shall treat the data in accordance with such markings unless otherwise specifically authorized in writing by the Contracting Officer.

(3)

- (i) The Contractor agrees not to establish claim to copyright, publish or release to others any computer software first produced in the performance of this contract without the Contracting Officer's prior written permission.
- (ii) If the Government desires to obtain copyright in computer software first produced in the performance of this contract and permission has not been granted as set forth in paragraph (d)(3)(i) of this clause, the Contracting Officer may direct the contractor to assert, or authorize the assertion of, claim to copyright in such data and to assign, or obtain the assignment of, such copyright to the Government or its designated assignee.
- (iii) Whenever the word "establish" is used in this clause, with reference to a claim to copyright, it shall be construed to mean "assert".

(e) *Unauthorized marking of data.*

- (1) Notwithstanding any other provisions of this contract concerning inspection or acceptance, if any data delivered under this contract are marked with the notices specified in subparagraph (g)(2) or (g)(3) of this clause and use of such is not authorized by this clause, or if such data bears any other restrictive or limiting markings not authorized by this contract, the Contracting Officer may at any time either return the data to the Contractor, or cancel or ignore the markings. However, the

following procedures shall apply prior to canceling or ignoring the markings.

- (i) The Contracting Officer shall make written inquiry to the Contractor affording the Contractor 30 days from receipt of the inquiry to provide written justification to substantiate the propriety of the markings;
 - (ii) If the Contractor fails to respond or fails to provide written justification to substantiate the propriety of the markings within the 30-day period (or a longer time not exceeding 90 days approved in writing by the Contracting Officer for good cause shown), the Government shall have the right to cancel or ignore the markings at any time after said period and the data will no longer be made subject to any disclosure prohibitions.
 - (iii) If the Contractor provides written justification to substantiate the propriety of the markings within the period set in subdivision (e)(1)(i) of this clause, the Contracting Officer shall consider such written justification and determine whether or not the markings are to be canceled or ignored. If the Contracting Officer determines that the markings are authorized, the Contractor shall be so notified in writing. If the Contracting Officer determines, with concurrence of the head of the contracting activity, that the markings are not authorized, the Contracting Officer shall furnish the Contractor a written determination, which determination shall become the final agency decision regarding the appropriateness of the markings unless the Contractor files suit in a court of competent jurisdiction within 90 days of receipt of the Contracting Officer's decision. The Government shall continue to abide by the markings under this subdivision (e)(1)(iii) until final resolution of the matter either by the Contracting Officer's determination becoming final (in which instance the Government shall thereafter have the right to cancel or ignore the markings at any time and the data will no longer be made subject to any disclosure prohibitions), or by final disposition of the matter by court decision if suit is filed.
- (2) The time limits in the procedures set forth in subparagraph (e)(1) of this clause may be modified in accordance with agency regulations implementing the Freedom of Information Act (5 U.S.C. 552) if necessary to respond to a request thereunder.
 - (3) This paragraph (e) does not apply if this contract is for a major system or for support of a major system by a civilian agency other than NASA and the U.S. Coast Guard agency subject to the provisions of Title III of the Federal Property and Administrative Services Act of 1949.
 - (4) Except to the extent the Government's action occurs as the result of final disposition of the matter by a court of competent jurisdiction, the

Contractor is not precluded by this paragraph (e) from bringing a claim under the Contract Disputes Act, including pursuant to the Disputes clause of this contract, as applicable, that may arise as the result of the Government removing or ignoring authorized markings on data delivered under this contract.

(f) *Omitted or incorrect markings.*

- (1) Data delivered to the Government without either the limited rights or restricted rights notice as authorized by paragraph (g) of this clause, or the copyright notice required by paragraph (c) of this clause, shall be deemed to have been furnished with unlimited rights, and the Government assumes no liability for the disclosure, use, or reproduction of such data. However, to the extent the data has not been disclosed without restriction outside the Government, the Contractor may request, within 6 months (or a longer time approved by the Contracting Officer for good cause shown) after delivery of such data, permission to have notices placed on qualifying data at the Contractor's expense, and the Contracting Officer may agree to do so if the Contractor --

- (i) Identifies the data to which the omitted notice is to be applied;
- (ii) Demonstrates that the omission of the notice was inadvertent;
- (iii) Establishes that the use of the proposed notice is authorized; and
- (iv) Acknowledges that the Government has no liability with respect to the disclosure, use, or reproduction of any such data made prior to the addition of the notice or resulting from the omission of the notice.

(2) The Contracting Officer may also

- (i) permit correction at the Contractor's expense of incorrect notices if the Contractor identifies the data on which correction of the notice is to be made, and demonstrates that the correct notice is authorized, or
- (ii) correct any incorrect notices.

(g) *Protection of limited rights data and restricted computer software.*

- (1) When data other than that listed in subdivisions (b)(1)(i), (ii), and (iii) of this clause are specified to be delivered under this contract and qualify as either limited rights data or restricted computer software, if the Contractor desires to continue protection of such data, the Contractor shall withhold such data and not furnish them to the Government under this contract. As a condition to this withholding, the Contractor shall identify the data being withheld and furnish form, fit, and function data in lieu thereof. Limited rights data that are formatted

as a computer data base for delivery to the Government are to be treated as limited rights data and not restricted computer software.

(2) -- (3) [Reserved]

- (h) *Subcontracting.* The Contractor has the responsibility to obtain from its subcontractors all data and rights therein necessary to fulfill the Contractor's obligations to the Government under this contract. If a subcontractor refuses to accept terms affording the Government such rights, the Contractor shall promptly bring such refusal to the attention of the Contracting Officer and not proceed with subcontract award without further authorization.
- (i) *Relationship to patents.* Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government.
- (j) The Contractor agrees, except as may be otherwise specified in this contract for specific data items listed as not subject to this paragraph, that the Contracting Officer or an authorized representative may, up to three years after acceptance of all items to be delivered under this contract, inspect at the Contractor's facility any data withheld pursuant to paragraph (g)(1) of this clause, for purposes of verifying the Contractor's assertion pertaining to the limited rights or restricted rights status of the data or for evaluating work performance. Where the Contractor whose data are to be inspected demonstrates to the Contracting Officer that there would be a possible conflict of interest if the inspection were made by a particular representative, the Contracting Officer shall designate an alternate inspector.

(End of Clause)

I.11 52.232-19 AVAILABILITY OF FUNDS FOR THE NEXT FISCAL YEAR.

The following contract clause (52.232-19) applies to Task Orders 1, 2, 23, 30, and 41 of this contract.

Funds are not presently available for performance under this contract beyond December 3, 2010 for Task Orders 1, 2, 23, 30, and 41. The Government's obligation for performance of this contract beyond that date is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment for Task Orders 1, 2, 23, 30, and 41 may arise for performance under this contract beyond December 3, 2010 until funds are made available to the Contracting Officer for performance and until the Contractor receives notice of availability, to be confirmed in writing by the Contracting Officer.

(End of clause)

I.12 SUBCONTRACTS FOR COMMERCIAL ITEMS (FAR 52.244-6) (Dec 2004)

(a) *Definitions.* As used in this clause-

"Commercial item" has the meaning contained in Federal Acquisition Regulation 2.101, Definitions.

"Subcontract" includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)

(1) The Contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Dec 2001) (38 U.S.C. 4212(a));

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).

(v) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (Dec 2004) (E.O. 13201). Flow down as required in accordance with paragraph (g) of FAR clause 52.222-39).

(vi) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Apr 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

**I.13 SUBMISSION OF COMMERCIAL TRANSPORTATION BILLS TO THE
GENERAL SERVICES ADMINISTRATION FOR AUDIT (FAR 52.247-67) (JUN
1997)**

(a)

(1) In accordance with paragraph (a)(2) of this clause, the Contractor shall submit to the General Services Administration (GSA) for audit, legible copies of all paid freight bills/invoices, commercial bills of lading (CBL's), passenger coupons, and other supporting documents for transportation services on which the United States will assume freight charges that were paid --

(i) By the Contractor under a cost-reimbursement contract; and

(ii) By a first-tier subcontractor under a cost-reimbursement subcontract thereunder.

(2) Cost-reimbursement Contractors shall only submit for audit those CBL's with freight shipment charges exceeding \$50.00. Bills under \$50.00 shall be retained on-site by the Contractor and made available for GSA on-site audits. This exception only applies to freight shipment bills and is not intended to apply to bills and invoices for any other transportation services.

(b) The Contractor shall forward copies of paid freight bills/invoices, CBL's, passenger coupons, and supporting documents as soon as possible following the end of the month, in one package to the:

General Services Administration
Attn: FWA
1800 F Street, NW
Washington, DC 20405.

The Contractor shall include the paid freight bills/invoices, CBL's, passenger coupons, and supporting documents for first-tier subcontractors under a cost-reimbursement contract. If the inclusion of the paid freight bills/invoices, CBL's, passenger coupons, and supporting documents for any subcontractor in the shipment is not practicable, the documents may be forwarded to GSA in a separate package.

(c) Any original transportation bills or other documents requested by GSA shall be forwarded promptly by the Contractor to GSA. The Contractor shall ensure that the name of the contracting agency is stamped or written on the face of the bill before sending it to GSA.

(d) A statement prepared in duplicate by the Contractor shall accompany each shipment of transportation documents. GSA will acknowledge receipt of the

shipment by signing and returning the copy of the statement. The statement shall show --

- (1) The name and address of the Contractor;
- (2) The contract number including any alpha-numeric prefix identifying the contracting office;
- (3) The name and address of the contracting office;
- (4) The total number of bills submitted with the statement; and
- (5) A listing of the respective amounts paid or, in lieu of such listing, an adding machine tape of the amounts paid showing the Contractor's voucher or check numbers.

(End of Clause)

I.14 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES (NFS 1852.204-76) (MAY 2007)

(a) The Contractor shall be responsible for information and information technology (IT) security when --

- (1) The Contractor or its subcontractors must obtain physical or electronic (i.e., authentication level 2 and above as defined in National Institute of Standards and Technology (NIST) Special Publication (SP) 800-63, Electronic Authentication Guideline) access to NASA's computer systems, networks, or IT infrastructure; or
- (2) Information categorized as low, moderate, or high by the Federal Information Processing Standards (FIPS) 199, Standards for Security Categorization of Federal Information and Information Systems is stored, generated, processed, or exchanged by NASA or on behalf of NASA by a contractor or subcontractor, regardless of whether the information resides on a NASA or a contractor/subcontractor's information system.

(b) IT Security Requirements.

- (1) Within 30 days after contract award, a Contractor shall submit to the Contracting Officer for NASA approval an IT Security Plan, Risk Assessment, and FIPS 199, Standards for Security Categorization of Federal Information and Information Systems, Assessment. These plans and assessments, including annual updates shall be incorporated into the contract as compliance documents.
 - (i) The IT system security plan shall be prepared consistent, in form and content, with NIST SP 800-18, Guide for Developing Security Plans for Federal Information Systems, and any

additions/augmentations described in NASA Procedural Requirements (NPR) 2810, Security of Information Technology. The security plan shall identify and document appropriate IT security controls consistent with the sensitivity of the information and the requirements of Federal Information Processing Standards (FIPS) 200, Recommended Security Controls for Federal Information Systems. The plan shall be reviewed and updated in accordance with NIST SP 800-26, Security Self-Assessment Guide for Information Technology Systems, and FIPS 200, on a yearly basis.

- (ii) The risk assessment shall be prepared consistent, in form and content, with NIST SP 800-30, Risk Management Guide for Information Technology Systems, and any additions/augmentations described in NPR 2810. The risk assessment shall be updated on a yearly basis.
 - (iii) The FIPS 199 assessment shall identify all information types as well as the "high water mark," as defined in FIPS 199, of the processed, stored, or transmitted information necessary to fulfill the contractual requirements.
- (2) The Contractor shall produce contingency plans consistent, in form and content, with NIST SP 800-34, Contingency Planning Guide for Information Technology Systems, and any additions/augmentations described in NPR 2810. The Contractor shall perform yearly "Classroom Exercises." "Functional Exercises," shall be coordinated with the Center CIOs and be conducted once every three years, with the first conducted within the first two years of contract award. These exercises are defined and described in NIST SP 800-34.
- (3) The Contractor shall ensure coordination of its incident response team with the NASA Incident Response Center (NASIRC) and the NASA Security Operations Center, ensuring that incidents are reported consistent with NIST SP 800-61, Computer Security Incident Reporting Guide, and the United States Computer Emergency Readiness Team's (US-CERT) Concept of Operations for reporting security incidents. Specifically, any confirmed incident of a system containing NASA data or controlling NASA assets shall be reported to NASIRC within one hour that results in unauthorized access, loss or modification of NASA data, or denial of service affecting the availability of NASA data.
- (4) The Contractor shall ensure that its employees, in performance of the contract, receive annual IT security training in NASA IT Security policies, procedures, computer ethics, and best practices in accordance with NPR 2810 requirements. The Contractor may use web-based training available from NASA to meet this requirement.
- (5) The Contractor shall provide NASA, including the NASA Office of Inspector General, access to the Contractor's and subcontractors'

facilities, installations, operations, documentation, databases, and personnel used in performance of the contract. Access shall be provided to the extent required to carry out IT security inspection, investigation, and/or audits to safeguard against threats and hazards to the integrity, availability, and confidentiality of NASA information or to the function of computer systems operated on behalf of NASA, and to preserve evidence of computer crime. To facilitate mandatory reviews, the Contractor shall ensure appropriate compartmentalization of NASA information, stored and/or processed, either by information systems in direct support of the contract or that are incidental to the contract.

- (6) The Contractor shall ensure that system administrators who perform tasks that have a material impact on IT security and operations demonstrate knowledge appropriate to those tasks. Knowledge is demonstrated through the NASA System Administrator Security Certification Program. A system administrator is one who provides IT services (including network services, file storage, and/or web services) to someone other than themselves and takes or assumes the responsibility for the security and administrative controls of that service. Within 30 days after contract award, the Contractor shall provide to the Contracting Officer a list of all system administrator positions and personnel filling those positions, along with a schedule that ensures certification of all personnel within 90 days after contract award. Additionally, the Contractor should report all personnel changes which impact system administrator positions within 5 days of the personnel change and ensure these individuals obtain System Administrator certification within 90 days after the change.
- (7) The Contractor shall ensure that NASA's Sensitive But Unclassified (SBU) information as defined in NPR 1600.1, NASA Security Program Procedural Requirements, which includes privacy information, is encrypted in storage and transmission.
- (8) When the Contractor is located at a NASA Center or installation or is using NASA IP address space, the Contractor shall --
 - (i) Submit requests for non-NASA provided external Internet connections to the Contracting Officer for approval by the Network Security Configuration Control Board (NSCCB);
 - (ii) Comply with the NASA CIO metrics including patch management, operating systems and application configuration guidelines, vulnerability scanning, incident reporting, system administrator certification, and security training; and
 - (iii) Utilize the NASA Public Key Infrastructure (PKI) for all encrypted communication or non-repudiation requirements within NASA when secure email capability is required.

(c) Physical and Logical Access Requirements.

- (1) Contractor personnel requiring access to IT systems operated by the Contractor for NASA or interconnected to a NASA network shall be screened at an appropriate level in accordance with NPR 2810 and Chapter 4, NPR 1600.1, NASA Security Program Procedural Requirements. NASA shall provide screening, appropriate to the highest risk level, of the IT systems and information accessed, using, as a minimum, National Agency Check with Inquiries (NACI). The Contractor shall submit the required forms to the NASA Center Chief of Security (CCS) within fourteen (14) days after contract award or assignment of an individual to a position requiring screening. The forms may be obtained from the CCS. At the option of NASA, interim access may be granted pending completion of the required investigation and final access determination. For Contractors who will reside on a NASA Center or installation, the security screening required for all required access (e.g., installation, facility, IT, information, etc.) is consolidated to ensure only one investigation is conducted based on the highest risk level. Contractors not residing on a NASA installation will be screened based on their IT access risk level determination only. See NPR 1600.1, Chapter 4.
- (2) Guidance for selecting the appropriate level of screening is based on the risk of adverse impact to NASA missions. NASA defines three levels of risk for which screening is required (IT-1 has the highest level of risk).
 - (i) IT-1 -- Individuals having privileged access or limited privileged access to systems whose misuse can cause very serious adverse impact to NASA missions. These systems include, for example, those that can transmit commands directly modifying the behavior of spacecraft, satellites or aircraft.
 - (ii) IT-2 -- Individuals having privileged access or limited privileged access to systems whose misuse can cause serious adverse impact to NASA missions. These systems include, for example, those that can transmit commands directly modifying the behavior of payloads on spacecraft, satellites or aircraft; and those that contain the primary copy of "level 1" information whose cost to replace exceeds one million dollars.
 - (iii) IT-3 -- Individuals having privileged access or limited privileged access to systems whose misuse can cause significant adverse impact to NASA missions. These systems include, for example, those that interconnect with a NASA network in a way that exceeds access by the general public, such as bypassing firewalls; and systems operated by the Contractor for NASA whose function or information has substantial cost to replace, even if these systems are not interconnected with a NASA network.

- (3) Screening for individuals shall employ forms appropriate for the level of risk as established in Chapter 4, NPR 1600.1.
- (4) The Contractor may conduct its own screening of individuals requiring privileged access or limited privileged access provided the Contractor can demonstrate to the Contracting Officer that the procedures used by the Contractor are equivalent to NASA's personnel screening procedures for the risk level assigned for the IT position.
- (5) Subject to approval of the Contracting Officer, the Contractor may forgo screening of Contractor personnel for those individuals who have proof of a --
 - (i) Current or recent national security clearances (within last three years);
 - (ii) Screening conducted by NASA within the last three years that meets or exceeds the screening requirements of the IT position; or
 - (iii) Screening conducted by the Contractor, within the last three years, that is equivalent to the NASA personnel screening procedures as approved by the Contracting Officer and concurred on by the CCS.
- (d) The Contracting Officer may waive the requirements of paragraphs (b) and (c)(1) through (c)(3) upon request of the Contractor. The Contractor shall provide all relevant information requested by the Contracting Officer to support the waiver request.
- (e) The Contractor shall contact the Contracting Officer for any documents, information, or forms necessary to comply with the requirements of this clause.
- (f) At the completion of the contract, the contractor shall return all NASA information and IT resources provided to the contractor during the performance of the contract and certify that all NASA information has been purged from contractor-owned systems used in the performance of the contract.
- (g) The Contractor shall insert this clause, including this paragraph (g), in all subcontracts
 - (1) Have physical or electronic access to NASA's computer systems, networks, or IT infrastructure; or
 - (2) Use information systems to generate, store, process, or exchange data with NASA or on behalf of NASA, regardless of whether the data resides on a NASA or a contractor's information system.

(End of clause)

I.15 PRICE ADJUSTMENT FOR "MAKE-OR-BUY" CHANGES (NFS 1852.215-79) (DEC 1988)

The following make-or-buy items are subject to the provisions of paragraph (d) of the clause at FAR 52.215-21, Change or Additions to Make-or-Buy Program, of this contract:

ITEM DESCRIPTION	MAKE-OR-BUY DETERMINATION

(End of Clause)

I.16 OMBUDSMAN (NFS 1852.215-84) (OCT 2003) (ALTERNATE I) (JUN 2000)

- (a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and contractors during the preaward and postaward phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the contracting officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the contracting officer for resolution.
- (b) If resolution cannot be made by the contracting officer, interested parties may contact the installation ombudsman:

Randy K. Gish, Associate Director (Management)
2101 NASA Parkway
Houston, TX 77058
Phone: 281-483-0490
Fax: 281-483-2200
E-mail: randy.k.gish@nasa.gov

Concerns, issues, disagreements, and recommendations that cannot be resolved at the installation may be referred to the NASA ombudsman, the Director of the Contract Management Division, at 202-358-0445, facsimile 202-358-3083, e-mail james.a.balinskas@nasa.gov. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

(End of clause)

ALTERNATE I

- (c) If this is a task or delivery order contract, the ombudsman shall review complaints from contractors and ensure they are afforded a fair opportunity to be considered, consistent with the procedures of the contract.

(End of clause)

I.17 ACCESS TO SENSITIVE INFORMATION (1852.237-72) (JUNE 2005)

- (a) As used in this clause, "sensitive information" refers to information that a contractor has developed at private expense, or that the Government has generated that qualifies for an exception to the Freedom of Information Act, which is not currently in the public domain, and which may embody trade secrets or commercial or financial information, and which may be sensitive or privileged.
- (b) To assist NASA in accomplishing management activities and administrative functions, the Contractor shall provide the services specified elsewhere in this contract.
- (c) If performing this contract entails access to sensitive information, as defined above, the Contractor agrees to -
 - (1) Utilize any sensitive information coming into its possession only for the purposes of performing the services specified in this contract, and not to improve its own competitive position in another procurement.
 - (2) Safeguard sensitive information coming into its possession from unauthorized use and disclosure.
 - (3) Allow access to sensitive information only to those employees that need it to perform services under this contract.
 - (4) Preclude access and disclosure of sensitive information to persons and entities outside of the Contractor's organization.
 - (5) Train employees who may require access to sensitive information about their obligations to utilize it only to perform the services specified in this contract and to safeguard it from unauthorized use and disclosure.
 - (6) Obtain a written affirmation from each employee that he/she has received and will comply with training on the authorized uses and mandatory protections of sensitive information needed in performing this contract.
 - (7) Administer a monitoring process to ensure that employees comply with all reasonable security procedures, report any breaches to the Contracting Officer, and implement any necessary corrective actions.
- (d) The Contractor will comply with all procedures and obligations specified in its Organizational Conflicts of Interest Avoidance Plan, which this contract incorporates as a compliance document.

- (e) The nature of the work on this contract may subject the Contractor and its employees to a variety of laws and regulations relating to ethics, conflicts of interest, corruption, and other criminal or civil matters relating to the award and administration of government contracts. Recognizing that this contract establishes a high standard of accountability and trust, the Government will carefully review the Contractor's performance in relation to the mandates and restrictions found in these laws and regulations. Unauthorized uses or disclosures of sensitive information may result in termination of this contract for default, or in debarment of the Contractor for serious misconduct affecting present responsibility as a government contractor.
- (f) The Contractor shall include the substance of this clause, including this paragraph (f), suitably modified to reflect the relationship of the parties, in all subcontracts that may involve access to sensitive information

(End of clause)

[END OF SECTION]

PART III – LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

SECTION J – LIST OF ATTACHMENTS

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J.1 DATA REQUIREMENTS LIST AND DATA REQUIREMENTS DESCRIPTION

Section J

Contract NNJ06JE86C
RFP NNJ05106317R

JSC DATA REQUIREMENTS LIST (DRL)

(See reverse for instructions)
Based on JSC-STD-123

a. Title of Contract, Project, SOW, etc. Safety and Mission Assurance Support Contract			b. Contract/RFP No.		c. DRL Date/Mod Date July 21, 2005	
1. Line item no. 01	2. DRD Title Management Plan	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. Date w/Proposal	7. Copies a. Type b. Number Other
8. Distribution (Continue on a blank sheet if needed) 1 st submission with Proposal. The following Distribution List becomes effective after contract start. BJ4/C. BurrIDGE LI/C. Unger NA/COTR NA/Business Manager			9. Remarks Initial submission with Proposal. Copies: Electronic file (.doc or .pdf)			
1. Line item no. 02	2. DRD Title Lessons Learned	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency AR	5. As-of-date	6. 1 st subm. Date	7. Copies a. Type b. Number Other
8. Distribution (Continue on a blank sheet if needed) BJ4/C. BurrIDGE NA/COTR NS/S. Nakamura			9. Remarks Copies: Electronic file (web-ready format such as .html or .jpg)			
1. Line item no. 03	2. DRD Title Integrated Technical Management Report	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency MO	5. As-of-date (Remarks)	6. 1 st subm. Date	7. Copies a. Type b. Number Other
8. Distribution (Continue on a blank sheet if needed) BJ4/C. BurrIDGE LI/C. Unger NA/COTR NA/Business Manager NC/D. Thelen NE/M. Fodroci NS/S. Nakamura NT/D. Petri NX/I. Williams			9. Remarks As-of-date: Reports shall cover contractor accounting calendar months. Submission shall be within 15 working days of end of accounting month. Copies: Electronic file (.doc or .pdf)			

1. Line item no. 04	2. DRD Title Work Breakdown Structure	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. date w/Proposal	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) 1 st submission with Proposal. The following Distribution List becomes effective after contract start. BJ4/C. Burrige LI/C. Unger NA/COTR NA/Business Manager NT/D. Petri NX/J. Williams		9. Remarks Copies: May be printed copies or electronic file (.doc or .pdf)			
1. Line item no. 05	2. DRD Title Contractor Financial Management Report (NASA Form 533M)	3. Data type: <input type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency MO	5. As-of-date (See DRD)	6. 1 st subm. date (See DRD)	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige LI/C Unger (Printed copy plus Electronic) NA/COTR NA/Business Manager		9. Remarks Copies: Printed Copies plus Electronic (.xls) to LI/C. Unger			
1. Line item no. 06	2. DRD Title Quality Manual	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. date w/Proposal	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) 1 st submission with Proposal. The following Distribution List becomes effective after contract start. BJ4/C. Burrige NA/COTR NT/R. Hill		9. Remarks Copies: May be printed copies or electronic file (.doc or .pdf)			
1. Line item no. 07	2. DRD Title Contractor Quality Metrics	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency QU	5. As-of-date	6. 1 st subm. date (Remarks)	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige NA/COTR NT/R. Hill		9. Remarks 1st Submission: 15 days after first 3 months period of performance.			

1. Line item no. 08	2. DRD Title Property Management Plan	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. date (Remarks)	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige NA/COTR JB3/J. Guy		9. Remarks 1 st Submission: 60 days after contract start. Copies: May be printed copies or electronic file (.doc or .pdf)			
1. Line item no. 09	2. DRD Title Safety and Health Plan	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date (See DRD)	6. 1 st subm. date w/Proposal	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) 1 st submission with Proposal. The following Distribution List becomes effective after contract start. BJ4/C. Burrige JA131/Environmental Services NA/COTR NA/S. Nakamura SD13/Occupational Health Officer		9. Remarks Copies: May be printed copies or electronic file (.doc or .pdf)			
1. Line item no. 10	2. DRD Title Safety and Health Program Self-Evaluation	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency AN	5. As-of-date (See DRD)	6. 1 st subm. date 9/30/06	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige JA131/Environmental Services NA/COTR NA/S. Nakamura SD13/Occupational Health Officer		9. Remarks Copies: May be printed copies or electronic file (.doc or .pdf)			
1. Line item no. 11	2. DRD Title Monthly Safety and Health Metrics	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency MO	5. As-of-date (Remarks)	6. 1 st subm. date	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige NA/COTR NA/S. Nakamura SD13/Occupational Health Officer		9. Remarks As-of-date: Submit monthly by 10th of month following month being reported. Copies: Electronic file (.xls or .doc)			

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1. Line item no. 12	2. DRD Title Information Technology (IT) Plan	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. date (Remarks)	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige NA/COTR NA/Business Manager					
1. Line item no. 13	2. DRD Title Data Management Plan	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. date 11/01/06	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige NA/COTR NA/Business Manager					
1. Line item no. 14	2. DRD Title S&MA Personnel Qualification Program Plan	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. date (Remarks)	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige NA/COTR NA/Business Manager					
1. Line item no. 15	2. DRD Title S&MA Prelaunch Assessment Presentations	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency AD	5. As-of-date AD	6. 1 st subm. date AD	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) As directed					

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1. Line item no. 16	2. DRD Title Activity Reports	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency AD	5. As-of-date AD	6. 1 st subm. date AD	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) As directed		9. Remarks Frequency, as-of-date, and submission dates will be determined based on type and scope of individual reports.			
1. Line item no. 17	2. DRD Title Trend Analysis (JSC Systems) Report	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency MO	5. As-of-date	6. 1 st subm. date	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) NA/COTR NT/D. Petri		9. Remarks Electronic file (.ppt)			
1. Line item no. 18	2. DRD Title Evaluation Reports	3. Data type: <input type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency AD	5. As-of-date	6. 1 st subm. date	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) NA121/M. Himel		9. Remarks Copies: Electronic submission as directed (e-mail or electronic file)			
1. Line item no. 19	2. DRD Title Assessment Plans and Reports	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency AR	5. As-of-date	6. 1 st subm. date	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) NA121/M. Himel		9. Remarks Copies: Direct Contractor input to the established IA web-site			

1. Line item no. 20	2. DRD Title Facilities System Certification Report	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency WK	5. As-of-date	6. 1 st subm. date	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) NS/S. Nakamura NT/D. Petri		9. Remarks Copies: Electronic file (.doc or .pdf)			
1. Line item no. 21	2. DRD Title Wage/Salary and Fringe Benefit Data	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency (Remarks)	5. As-of-date	6. 1 st subm. date (Remarks)	7. Copies a. Type b. Number Print
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige BA2/Contract Labor Relations Officer		9. Remarks Submit annually, 90 days prior to the anniversary date of the contract. Changes shall be incorporated as required by change page or complete reissue.			
1. Line item no. 22	2. DRD Title Reprocurement Data Package	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency UR	5. As-of-date	6. 1 st subm. date UR	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) BJ4/C. Burrige NA/COTR		9. Remarks Copies: Electronic file (.doc or .pdf)			
1. Line item no. 23	2. DRD Title Contract Phase-In Plan	3. Data type: <input checked="" type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal <input type="checkbox"/> (3) Submitted upon request	4. Frequency RT	5. As-of-date	6. 1 st subm. date w/Proposal	7. Copies a. Type b. Number Other
	8. Distribution (Continue on a blank sheet if needed) 1 st submission with Proposal. The following Distribution List becomes effective after contract start. BJ4/C. Burrige NA/COTR		9. Remarks Copies: Electronic file (.doc or .pdf)			

Short Form Instructions for Completing JSC Form 2323 & 2323A

For more detailed instruction, see JSC-STD-123.

DRL IDENTIFICATION

- a. Title - Enter nomenclature descriptive of activity to which the DRL pertains, such as project, contract, statement of work, or request for proposal.
- b. Contract/RFP Number - Enter contract number or RFP number, if applicable.
- c. Date - Enter DRL preparation date as follows: Month-Day-Year. Subsequent modification dates may also be entered in this block.

LINE ITEM IDENTIFICATION

1. Line Item No. - Number line items sequentially, 1 through 999. Items 1, 2, 3, 4 are preprinted on JSC Form 2323. JSC Form 2323A is numbered 5 and following.

2. DRD Title - Enter DRD title from block 1 of JSC Form 2341.

3. Data Type - Check the appropriate data type. Additional detail needed to clarify types or define subtypes may be added in block 9, REMARKS.

(1) Written Approval - Data requiring written approval by the NASA OPR before implementation into procurement or development program.

(2) Mandatory Submittal - Data submitted to NASA for coordination, information, review, and/or management control.

(3) Submittal upon Request - Data prepared and retained by respondent to be made available to requiring organization upon request.

4. Frequency - Enter frequency of submittal code as follows:

<u>Code Description</u>		<u>Code Description</u>		<u>Code Description</u>	
AD	As Directed	DA	Daily	RD	As Released
AN	Annually	DD	Deferred Delivery	RT	One Time and Revisions
AR	As Required	MO	Monthly	SA	SemiAnnually
BE	Biennially (Every other yr.)	OT	One Time	TY	Three Per Year
BM	Bimonthly (Every other mo.)	PV	Per Vehicle	UR	Upon Request
BW	Biweekly (Every other week)	QU	Quarterly	WK	Weekly

5. As-Of Date - If reports are of a recurring nature, give as-of date (cutoff date and due date: e.g., 15/1 indicated input cutoff date of 15th and due date of 1st). Amplify in Remarks, Item 9, if necessary.

6. First Submittal - Enter Month/Day/Year of initial submittal. If calendar date is not scheduled, enter number of days preceding or following event to which data requirement is related (e.g., 90 days prior to launch). Amplify in Remarks, Item 9, if necessary.

7. Copies - Complete 7a and 7b as specified below.

- a. Type - Enter code as follows:

<u>Code</u>	<u>Definition</u>	<u>Code</u>	<u>Definition</u>
PRINT	Printed Copies	MICRO	Microfilm Aperture Cards
REPRO	Reproducible Copy	OTHER	Explain Remarks, Item 9

- b. Number - Enter number of copies required opposite each type of copy furnished.

8. **DISTRIBUTION** - List current codes or addresses and names of organizations which are to receive copies of documents generated under the DRD. If more than one copy is required, so indicate in parenthesis by recipient's name. Continue on a blank sheet if necessary.

9. **REMARKS** - Enter in this space.
- a. Reference to specific work statement paragraph as applicable to explain relationship of data to task.
 - b. Additional submittal information, if necessary.
 - c. Comments which explain an entry made in any block of the DRL.
 - d. OPR for a specific DRD, if different from contract COTR.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Management Plan	05/03/05	01	

4. Use (Define need for, intended use of, and/or anticipated results of data)

This document describes the Contractor's overall management systems for the implementation and accomplishment of the contract Statement of Work (SOW).

5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA	
6. References (Optional) Section C-3.1.3, Program Management NPD 2190.1, NASA Export Control Program Policy NPR 8000.4, Risk Management Clause H.10, Potential Conflict of Interest Clause H.1, NFS 1852.225-70, Alternate 1, Export Licenses	7. Interrelationships (e.g., with other DRDs) (Optional) DRD 02 Lessons Learned DRD 03 Integrated Technical Management Report DRD 06 Quality Manual DRD 07 Contractor Quality Metrics DRD 08 Property Management Plan DRD 09 Safety and Health Plan DRD 12 Information Technology Plan

8. Preparation Information (Include complete instructions for document preparation)

This document shall be the master plan which describes the overall Contractor approach for the conduct and implementation of the SOW. Plan contents can be summary in nature but shall provide sufficient information to define the concepts and techniques to be employed in the Contractor's approach to program management of this contract.

1. The Plan shall consist of an index of the Contractor's internal operation plans, directives, and procedures for each of the following areas with a brief discussion as to how they will be utilized in managing the effort and fulfilling the requirements:

- Program and Performance Management (e.g. cost, resources, customer satisfaction)
- Risk Management and Mitigation
- Export Control
- Configuration Management
- Information and Data Management
- Quality Assurance, Reliability, and Safety Management
- Engineering Management
- Organizational Conflict of Interest (OCI) Mitigation

When completing the above listed sections, include the following elements for the designated section.

The Program and Performance Management section shall include:

- a. A description of how the overall approach creates an efficient and effective interface to the Government in the management and communication of SOW tasks and priorities.
- b. A description of the processes for communicating and obtaining Government concurrence with changing priorities and workforce adjustments.
- c. A description of the policies, processes, procedures, and techniques proposed to measure the effectiveness of products and services provided.
- d. Your proposed approach to measuring, reporting and continuously improving how well customer expectations are met.
- e. Your proposed approach to developing and maintaining customer relationships. Describe the steps you will take to ensure that customer interactions are effective.

The Risk Management and Mitigation section shall include:

- a. A description of your proposed risk management approach and how it relates to potential areas of risk to performance including the probability of the risk occurring, the impact and severity of the risk.
- b. An overview of your proposed risk management process, including identification, analysis, planning, tracking, control, communication, and documentation of risk.

The Export Control section shall include:

- a. Description of Contractor's export control program, including details of its licensing and personnel training.
- b. Discussion of the overall approach to ensure compliance with export control laws, regulations, and contract requirements.
- c. Identification of Export Control licenses, including Technical Assistance Agreements (TAAs), that the Contractor will pursue to satisfy its responsibilities under NFS 1852.225-70. Include the schedule for submitting license applications for processing and approval to the Department of State (DoS).

Potential Conflict of Interest:

OCI is discussed in Contract Clause H.10, Potential Conflict of Interest. The Contractor shall provide detailed information in this Management Plan on how they will avoid or mitigate any conflicts of interest which currently exist and potential conflicts of interest that may arise during contract performance. In performing work under the S&MA SSC, the Contractor may be required to inspect, evaluate, assess, critique, review, or perform other similar services with respect to products and services furnished by the Contractor under another NASA contract. The OCI portion of the Plan shall address all areas of Clause H.10.

In addition, the OCI section shall also include:

- a. A description of potential conflicts of “team” members if a “team” arrangement is being proposed.
- b. A description of the approach that will be implemented to manage the resources of the vendor or team for conflict situations that may arise during the period covered by the contract.

In addition to the subjects listed above, the Contractor may add subjects as deemed appropriate and necessary in order to convey the total program plan.

2. The Plan shall include a current organization chart for the organization responsible for conducting the effort. The chart shall show lines of authority and how this contract fits within the corporate organization structure. Supporting documentation shall be furnished to document the roles and responsibilities, task assignments, products, amount of effort, and management relationships for each organizational unit responsible for this effort. The Contractor shall identify by name the key personnel in all functional areas. The Contractor shall provide anticipated/projected hiring dates for vacant positions. The Plan shall provide notification of any significant changes to the Contractor’s organization, method of operation, or to the management network. In addition, the Plan shall:

- a. Discuss how your proposed organizational structure is flexible and can adapt to multiple and changing Program and Project needs.
- b. Describe the communication channels, lines of authority (including the line of succession if Program Manager is unavailable), reporting relationships, and responsibilities of all organizational elements.
- c. Discuss how these channels will be effective in managing communication and how they will be used to enhance the safety culture within the S&MA organization and extend into communication with Programs and Projects.
- d. Describe the relationship and the reporting responsibilities of the Contractor’s Program Manager to corporate management as well as the management of any proposed subcontractors, team members, or joint venture partners.
- e. Describe the proposed organizational elements within the overall organization you believe are most critical to satisfactory accomplishment of all performance requirements and provide rationale as to why these are judged most critical within the framework of the overall organization.
- f. Provide supporting rationale that demonstrates the proposed organizational approach will ensure success in each of the critical areas identified.

3. The Plan shall identify key subcontractors and describe the Contractor’s system for control over all subcontractors and vendors. Subcontractors shall provide notification of any significant changes to their organizations (e.g., personnel changes, accounting system) or method of operation. In addition, the Plan shall:

- a. Discuss the details of formal arrangements with any proposed subcontractors, team

- members, or joint venture partners.
 - b. Discuss the rationale for selection of proposed subcontractors, team members, or joint venture partners, both large and small businesses.
 - c. Discuss the level of expertise and the necessary capabilities of the proposed subcontractors, team members, or joint venture partners.
4. All employees must maintain the education and experience levels for the respective Standard Labor Categories as accepted by the Government in the proposal.

Upon NASA approval, the Plan shall form the basis for the Contractor's overall program management system and shall be updated and submitted to NASA for approval as revisions are required.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Lessons Learned	02/14/05	02	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Obtains Lessons learned from Contractor for possible publication in NASA Lessons Learned Information System (LLIS).

5. DRD Category: (check one) <input checked="" type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional) Section C-3.1.3 Program Management Section C-9.2.2.p White Sands Test Facility		7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan	
8. Preparation Information (Include complete instructions for document preparation)			

Criteria for Selecting Lessons Learned: Insight arising from any event or observation that will benefit from sharing with a larger community of interested parties. Lessons learned are intended to prevent recurrence of undesirable events and to allow NASA and its team members to capitalize to the greatest extent practical on unique successes.

Frequency of submission: 30 days after triggering event or 30 days after mishap investigation or hazard analysis and evaluation is completed.

Distribution:

NS/Safety and Test Operations Division (1 electronic copy including photographs, drawings, etc., in web-ready format such as .html or .JPG)

NA/Contracting Officer's Technical Representative (COTR) (1 copy)

Content:

1. Subject - one line subject of the lesson.
2. Lesson Learned - usually one sentence that describes insight gained
3. Description of Event - narrative of what happened.
4. Recommendations - may be an action plan, suggestion, etc., that was adopted at event source.
5. Supporting documentation - as needed to give clear picture of lesson (photographs, illustrations, drawings, etc.)
6. Contact name and e-mail address (for follow up by Government prior to publication of lesson)
7. Definitions. Refer to NASA LLIS at <http://llis.gsfc.nasa.gov/> for definitions of terms used.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Integrated Technical Management Report	02/14/05	03	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To provide timely, integrated performance visibility to enhance effective cost, schedule, and technical management, and to provide consolidated documentation on contract activities. Used by the Contractor and NASA for monitoring activity, progress, and accomplishments, and documenting problems, solutions, and corrective actions associated with contract performance.

5. DRD Category: (check one) ☒ Technical ☒ Administrative ☐ SR&QA

6. References (Optional) NPD 7120.4C, Program/Project Management NPD 9501.3A, Earned Value Management Section C-3.1.4 Program Management Section C-3.2 Cost and Schedule	7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan DRD 04 Work Breakdown Structure (WBS) DRD 05 Contractor Financial Management Report (NF533) DRD 16 Activity Reports DRD 18 Evaluation Reports DRD 19 Assessment Plan and Reports
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8. Preparation Information (Include complete instructions for document preparation)

The Contractor shall submit monthly performance reports of all work planned and accomplished during each month of contract performance. The report shall include NASA Form 533M along with a combination of quantitative, metric, narrative, cost, earned value, and schedule information that relates costs to work performed and explains variances between the baselined plan and the actuals submitted on the NF533s.

Reporting shall be by the levels detailed in DRD 04 line items and below as necessary to:

- track activity and progress.
- communicate to NASA where and why variances are occurring.
- analyze variances.
- assess impacts to technical and schedule performance and discuss recovery plans.
- establish the value of work performed against the originally estimated/planned end value of tasks.

The report shall include issues or problems (contractual, funding, cost, technical, schedule, prioritization, skills, workload, etc.) along with recommended solutions.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Work Breakdown Structure (WBS)	02/24/05	04	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To establish a framework for reporting cost, schedule, and technical performance. To provide a basis for uniform planning, reporting status, program visibility, and assignment of responsibilities.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA	
6. References (Optional) NPD 7120.4B, Program/Project Management NPR 7120.5C, Program and Project Management Processes and Requirements Section C-3.2 Cost and Schedule	7. Interrelationships (e.g., with other DRDs) (Optional) DRD 03 Integrated Technical Management Report DRD 05 Contractor Financial Management Reporting (NF533)
8. Preparation Information (Include complete instructions for document preparation)	

The WBS shall be used as a framework to define requirements, plan effort, assign responsibilities, allocate and control costs and resources, and report progress, expenditures, technical, and schedule performance.

The WBS shall consist of an indented list of element titles, scope/summary of each element (WBS Dictionary), and a diagram to clearly indicate element relationships. The following represents the current basic structure based on organizational fund sources.

Level I	Level II	Level III	Level IV	WBS Dictionary
Contract Summary				Roll-up of all WBS Level II elements
	Program Service Pool		<ul style="list-style-type: none"> - RITE/RITF Materials - Precision Materials (PM) - PM Calibration - PQA/PQA Admin - Pressure Systems - Facility Software Engineering - NASA Advisories and Alerts - EEE Parts Assurance - Special Processes 	Service pools are infrastructure capabilities that support multiple projects at a center. These costs are allocated based on usage/consumption. Here, the Service Pool provides S&MA oversight to Program activities

			- Risk Management and Analysis - ISO Custodian	
		Program Support		Tasks not specific to any program within S&MA but benefit all programs
		Station S&MA		Tasks that directly support ISS
		Shuttle S&MA	- Government-Furnished Equipment (GFE) - Non-GFE (Shuttle Support S&MA)	Tasks that directly support SSP
		Station S&MA Safety Panel	- Station Review Panel (SRP) - Reliability and Maintainability (R&M) Panel	Direct Administrative and Technical support to ISS Safety Panels
		Shuttle S&MA Safety Panel	- Space Shuttle Review Panel (SSRP) - Payload Safety Review Panel (PSRP)	Direct Administrative and Technical support to ISS Safety Panels
	Facility Service Pool			Service Pool that provides for S&MA support to WSTF test facilities
	Shuttle (Direct)			Activities directly funded by the Shuttle Program that are outside of services provided under the Program Service Pool
	Station (Direct)			Activities directly funded by the Station Program that are outside of services provided under the Program Service Pool
	EVA (XA-Station)			Activities directly funded by the Station Program through the EVA office for specific EVA S&MA services not provided under the Program Service Pool
	Center G&A			Center functions that benefit all projects. Content is standard across the Agency.
	Corporate G&A		- Independent Assessment (IA) - Research Technology Operations Programs (RTOPs)	Operations of NASA Headquarters; also includes Agency-level functions benefiting all projects but managed at a Center or performed at a Center.
	Exploration			Activities directly funded by

	(Direct)			the Office of Space Exploration for specific advanced program S&MA services not provided under the Program Service Pool
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Level II elements may be added or phased out based on NASA financial reporting requirements, changes to fund sources, and the addition or deletion of Programs and Projects.

Level III elements may be added or phased out based on issuance of Task/Delivery Orders that require separate cost tracking or based on tracking requirements changes from the fund sources.

Level IV elements have been identified by NASA as definable areas for management of performance and cost.

The Contractor may utilize additional levels to further subdivide activities in order to permit adequate control and visibility. It is not necessary to extend the WBS to the same level for each activity.

Cost accounting at the lowest WBS levels implemented by the Contractor, shall accrue costs by the elements required for NF533 reporting (i.e., Hours, Direct Labor Cost, Fringe/Overhead, Facilities, Subcontractor Costs, Materials, Travel, Training, Overtime Premium, Overhead, etc.) in order to roll-up costs to the NF533s and to provide detail backup information, if requested by NASA, to support review of NF533s.

Interrelationship with NF533s:

Level I and II require submission of NF533s. Level III elements require detail cost report sheets that list WBS Level III elements, with element-associated costs, and roll-up to Level II NF533s. WBS Level IV elements require detail cost report sheets that list WBS Level IV elements, with element-associated costs, and roll-up to Level III detail sheets.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Contractor Financial Management Report (NASA Form 533M)	03/30/05	05	
4. Use (Define need for, intended use of, and/or anticipated results of data) To be used for NASA cost accounting and program control activities. Provides a basis for evaluating cost and expenditures on the contract.			
5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional) Section C-3.2 Cost and Schedule NPR 9501.2D (or current issue), NASA Contractor Financial Management Reporting		7. Interrelationships (e.g., with other DRDs) (Optional) DRD 03 Integrated Technical Management Report DRD 04 Work Breakdown Structure	
8. Preparation Information (Include complete instructions for document preparation)			

Scope:

The Contractor shall submit financial data in accordance with NPR 9501.2 as amended or revised.

The Data contained in the reports must be auditable using Generally Accepted Accounting Principles (GAAP). Supplemental cost reports submitted in addition to the NF533 must be reconcilable to the NF533. As part of the NF533, the Contractor shall submit a summary report of the NF533 to the NASA Resource Analyst assigned to the contract. The Contractor is required to coordinate with the NASA Resource Analyst to establish and maintain the Reporting Categories the Contractor shall use for both the NF533 and the summary report, and also to determine the format for the summary report.

Monthly Financial Reporting:

Individual NF533Ms shall be prepared and submitted for each reportable Work Breakdown Structure (WBS) level and element (see DRD 03) within the NASA WBS structure. Minimum requirements for the monthly reports are:

1. Contract Summary Level NF533 (WBS Level I) – roll-up of all WBS Level II elements
2. Fund Source Top-Level NF533 (WBS Level II) – roll-up of all WBS Level III elements
3. Detail sheets that list WBS Level III elements, with element-associated costs, that roll-up to Level II NF533s
4. Detail sheets that list WBS Level IV elements, with element-associated costs, that roll-up to Level III detail sheets

WBS elements may change year-to-year based on changes to fund sources or needs of NASA management to gain cost insight into specific task areas.

Variance:

Variance explanations between baselined plan and actual costs submitted on the NF533 shall be included in the Integrated Technical Management Report (DRD 03).

Reporting Categories:

Reporting categories shall be established and costs accrued against them so that actuals can be compared to negotiated costs at the cost element level. Reporting categories and elements will be agreed-to by the Contractor and the Government during contract negotiation and shall maximize the Contractor's accounting system and capabilities to the extent possible and maintain NASA reporting and accounting requirements. Anticipated reporting categories include the following:

Reporting Categories		Description
Contractor Labor		
Direct Labor Hours	Hrs	Direct labor can be directly identified to a particular subdivision of work (project, system, or task). It is reported as hours are incurred, with accruals for direct labor to the end of the contractors' accounting period.
Indirect Labor Hours	Hrs	Indirect labor hours are hours incurred for common objectives, such as payroll, maintenance, or computer support which cannot be charged to any single direct effort.
Contractor Labor \$'s	\$'s	
Subcontractor Labor		Actual and estimated costs reported by prime contractors shall include subcontractors' incurred cost for the same accounting period.
Labor Hours	Hrs	
Subcontractor Labor \$'s	\$'s	
Total Labor Dollars	\$'s	Sum of all labor dollars reported on NF533.
OT Premium	\$'s	
Travel	\$'s	Travel is reported as costs are incurred, generally using the dates of travel to determine the period in which the cost will be reported.
Training	\$'s	
Materials	\$'s	Commercial, off-the-shelf items that are purchased for contract work are to be reported to NASA when accepted by the contractor. Material will not be reported as an element of cost under a subdivision of work until it is used on, consumed by, or applied to that subdivision of work.
Equipment	\$'s	Costs for manufactured equipment, <i>i.e.</i> , equipment produced to specific requirements that make it useless to anyone else without rework shall be reported as the equipment is manufactured. The straight-line method for estimating accrued costs

		or the use of supplemental information obtained from the vendor are acceptable to calculate the incurred cost.
Facilities	\$'s	Leases.
Overhead	\$'s	Overhead is an accumulation of costs into various "pools", normally subdivided further by functional or departmental associations, such as engineering overhead, manufacturing overhead, and materials handling overhead. These costs are normally distributed on the basis of direct labor dollars (or hours) or material dollars.
G&A	\$'s	G&A is an accumulation of indirect costs applicable to the direction and control of the contractors' activities as a whole. This category would not include costs classified as overhead. Commonly included under G&A are costs for officers' salaries, general and corporate offices, legal and auditing staffs, office supplies, insurance, and taxes. Total cost incurred, exclusive of G&A expenses, is usually used as the basis of distribution to the various cost objectives.
Subtotal Dollars	\$'s	
Fees	\$'s	Award fee is an amount that a contractor may earn in whole or in part based upon evaluations of performance during the contract period. The amount of award fee is negotiated and included in the contract. There are six award fee categories which may be used for NF533 reporting: Base Fee, Fee Earned, Interim Fee, Provisional Fee, Potential Additional Fee, and Total Fee. Award fee should be reported in the appropriate categories under the general heading "Award Fee" following the "Total Cost" line.
Total Dollars	\$'s	

GENERAL GUIDANCE:

The NASA Form 533 (NF533) reports provide data necessary for the following:

1. Projecting costs and hours to ensure that dollar and labor resources realistically support Project and Program schedules.
2. Evaluating Contractor's actual cost and fee data in relation to negotiated contract value, estimated costs, and budget forecast data.
3. Planning, monitoring, and controlling Project and Program resources.
4. Accruing cost in NASA's accounting system, providing program and functional management information, and resulting in liabilities reflected on the financial statements.

Cost is a financial measurement of resources used in accomplishing a specified purpose, such as performing a service, carrying out an activity, acquiring an asset, or completing a unit of work or Project. NASA Procedural Requirements (NPR) 9501.2D, NASA Contractor Financial Management Reporting, identifies the cost reporting requirements for a contract.

NASA is required by law to maintain accrual accounting, which requires cost to be reported in the period in which benefits are received, without regard to time of payment. Examples of accrual accounting for common cost elements reported on the NF533 follow:

Cost Element	Definitions
Labor	Reported to NASA as hours are incurred.
Equipment & Materials (commercial off the shelf)	Generally reported to NASA when received and accepted by the Contractor.
Manufactured Equipment	Defined as any equipment that is produced to specific requirements that make it useless to anyone else without rework. Cost should be reported to NASA as the equipment is being manufactured. The straight-line method for estimating accrued costs or the use of supplemental information obtained from the vendor are acceptable methods used to calculate the cost accrual amount.
Leases	Reported to NASA using a proration over the life of the lease.
Travel	Reported to NASA as costs are incurred.
Subcontracts	Actual and estimated costs reported by Prime Contractors shall include subcontractor's incurred costs for the same accounting period. Where subcontract costs are material, they should be separately identified on NF533 reports. The Prime Contractor shall include in the total cost of each subdivision of work the accrued cost (including fee, if any) of related subcontractor effort. Subcontractors should, therefore, be required to report cost to the Prime Contractor, using the accrual method of accounting. If the G&A and fee reported by a subcontractor are at the total subcontractor level, these costs must be allocated to specific subdivisions of work. Data submitted by the subcontractor should be structured similar to the Prime Contractor's NF533 to enable the Prime Contractor to properly report to NASA. For Firm Fixed Price subcontracts with a contract value greater than \$500,000, the Prime Contractor is required to document the methodology used to generate the subcontractor costs reported and provide this information to the Contracting Officer and Center Deputy Chief Financial Officer (Finance).
Unfilled Orders	Reported as the difference between the cumulative cost incurred to date and amounts obligated to suppliers and subcontractors.
Fee	Should be accrued as earned using a consistent and auditable method to determine the amount. For example: an acceptable method would be to use historical data to determine the amount to accrue each month. Fee should be reported on the NF533 following the "Total Cost" line. Award fee must be reported by the following categories: Base Fee, Fee Earned,

	Interim Fee, Provisional Fee, Potential Additional Fee, and Total Fee. If any of the above fee categories do not pertain, they should not be included in the NF533.
Prompt Payment Discounts	Cumulative cost reported to NASA should be full incurred cost. The prompt payment discount amount taken should be reported as a separate line item on the NF533 below the cumulative cost amounts for the contract.

The NF533 reports are the official cost documents used at NASA for cost type, price redetermination, and fixed price incentive contracts. The data contained in the reports must be auditable using Generally Accepted Accounting Principles (GAAP). Supplemental cost reports submitted in addition to the NF533 must be reconcilable to the NF533.

The due dates for the NF533M report is outlined in Chapter 3 of NPR 9501.2D. The following is a summary of the NF533 due date requirements.

NF533 Report	Due Date
NF533M	Due not later than 10 working days following the close of the Contractor's monthly accounting period or no later than the 15 th calendar day of each calendar month. Proposed monthly delivery dates for NF533Ms shall be coordinated with the NASA Program Analyst and shall be delivered with sufficient time for NASA review and input into the NASA accounting system to support NASA financial reporting requirements.

The due dates reflect the date the NF533 reports are received by personnel on the distribution list, not the date the reports are generated or mailed by the Contractor. It is critical that the NF533 reports are submitted in a timely manner to ensure adequate time for NASA to analyze and record the cost into the NASA accounting system.

Uncompensated overtime hours worked should be reported on NF533 reports as a separate line item or in the footnotes.

An initial NF533 report is required in the NF533Q format to be used as a baseline for the life of the contract. The initial (baseline) NF533Q report shall be submitted by the Contractor within 30 days after authorization to proceed has been granted. The initial report shall reflect the original contract value detailed by negotiated reporting categories and shall be the original contract baseline plan. In addition to the initial (baseline) report, monthly NF533 reporting shall begin no later than 30 days after the incurrence of cost.

Column 7b (planned cost incurred/hours worked for the month) and 7d (cumulative planned cost incurred/hours worked) of the NF533M represent the negotiated baseline plan for the contract. There may not be a relationship between the estimates provided in columns 8 of the NF533M to columns 7b and 7d. Columns 7b and 7d represent the legally binding contract negotiated

baseline plan plus all authorized changes.

Short and long-term cost estimates, which include all data entered in columns 8 and 9a on the ND533M and NF533Q reports, shall be based on the most current and reliable information available.

Prior period cost adjustments should be reported in column 7a and 7c of NF533M with a footnote discussing the reasons for and amounts of the adjustments.

Monthly NF533 reporting is no longer required once the contract is physically complete, provided the final cost report includes actual cost only (no estimates or forecasts). The Contractor must continue to submit monthly NF533 reports as long as estimates for the following period are included. If the final cost of a contract changes after the submission of the "final" Contractor cost report, the Contractor must submit a revised NF533 report in the month the cost change is recognized.

Electronic NF533 Requirement

In addition to submitting the NF533M in hardcopy format, the Contractor, upon request, shall submit the NF533 electronically by the same due date as the hardcopy. The data shall be submitted via email using the Government prescribed flat file format (see attached Agency Defined File Format for specific layout details) and shall include the following header information from the hardcopy.

Data Element	Description
Contract Number	NASA-assigned contract number
Modification Number	Latest definitive Modification Number
Accrual Date	Date the data was generated for
Report Period End Date	Period ending date of the NF533
Operating Days	Number of operating days for the current NF533
Date Received/Submitted	Date the report is submitted
CCR Format	Monthly (NF533M)
Cost Unit of Measure	Unit of measure used to report cost on the NF533 report
HR/WYE Unit of Measure	Unit of measure used to report Hours/Work Year Equivalents (WYEs) on the NF533 Report
Authorized Contractor Representative	Name of Contractor Approving Officer
Authorized Contractor Representative Date Signed	Date the NF533 is approved and signed by the authorized Contractor Representative
Monthly Grand Total Cost Incurred (7a)	Grand Total Actual monthly cost for the prior month (Column 7a on the NF533)
Monthly Grand Total HR/WYE (7a)	Grand Total Actual monthly hours/WYEs for the prior month (Column 7a on the NF533)
Monthly Grand Total Cost Planned (7b)	Prior month planned cost (column 7b on the NF533)
Grand Total Cost Incurred ITD (7c)	Grand total contract cost from Inception to Date (ITD) (Column 7c on the NF533)

Grand Total Estimated Cost (8a)	Grand total current month cost estimate (Column 8a on the NF533)
Grand Total Planned Cost (7d)	Grand total planned contract cost (column 7d on the NF533)
Grand Total Estimated HR/WYE (8a)	Grand total current month estimate (Column 8a on the NF533)
Grand Total Estimated HR/WYE (8a)	Grand total current month HR/WYE estimate (column 8a on the NF533)
Grand Total Next Month Estimated Cost (8b)	Grand total next month cost estimate (column 8b on the NF533)
Grand Total Balance of Contract (8c)	Contract Balance for the remaining estimate to complete (column 8c on the NF533)
Grand Total Contractor Estimate (9a)	Contractor estimate to complete entire scope of contract (column 9a on the NF533)
Grand Total Contract Value (9b)	Contractor distribution of contract value by the reporting categories (column 9b on the NF533)
Grand Total Unfilled Orders Outstanding (10)	Unfilled order outstanding at the end of the reporting period (column 10 on the NF533)

The flat file will also contain detailed information for each Reporting Category (RC). A Reporting Category correlates to a task order, delivery order, or Work Breakdown Structure (WBS) and is the level at which cost is reported. Each RC can have Sub-Reporting Category line items (detailed cost elements) that add up to an RC. The Contractor is required to coordinate with the NASA Resource Analyst assigned to the contract in order to establish and maintain the Reporting Categories the Contractor shall use to comply with this data requirement. The chart below describes the data elements to be included in this section of the flat file (see attached Agency Defined File Format for specific layout details).

Data Element	Description
Reporting Category (RC)	Task, Delivery Order, WBS
Cost Incurred for the Month (7a)	Prior month actual cost incurred for each RC (Column 7a on the NF533)
HR/WYE Incurred for the Month (7a)	Prior month actual HR/WYE incurred for each RC (Column 7a on the NF533)
Contract prior month planned cost (7b)	Planned cost for prior month for each RC (column 8b on NF533)
Contract ITD Cost (7c)	Contract ITD cost for each RC (Column 7c on the NF533)
Contract Planned ITD Cost (7d)	Contract planned ITD cost for each RC (column 7d on NF533)
Current Month Estimated Cost (8a)	Cost estimate for the current month for each RC (Column 8a on the NF533)
Current Month Estimated HR/WYE (8a)	HR/WYE estimate for the current month for each RC (Column 8a on the NF533)
Next month estimated cost (8b)	Estimated cost for next month for each RC (column 8b on NF533)

Balance of Contract (8c)	Balance of contract for the remaining estimate to complete for each RC (column 8c on NF533)
Contractor Estimate (9a)	Contractor estimate for the total estimate to complete entire scope of contract for each RC (column 9a on NF533)
Contract Value (9b)	Contract value based upon contract modifications for each RC (column 9b of NF533)
Unfilled Orders Outstanding (10)	Unfilled orders outstanding at the end of the reporting period for each RC (column 10 on NF533)
Reporting Category Level	Used by NASA's accounting system to determine the RC level
Reporting Category Identifier	Identifies if the RC is an actual Reporting Category or a Sub-Reporting Category

The flat file shall be saved as a text file with no extension (do not include .txt after the file name) and named in strict accordance with the specific formate described in the attached Agency Defined File Format document.

File names must be provided in a specific format. Each file name will begin with the SAP 2 Character center abbreviation listed below. The contract number and date will be included in the file name as well. Below is a sample file name.

MACFPS001 NAS00-0001 yyyy mm dd

SAP 2 Charter Center Abbreviations	
Headquarters	HQ
Marshall	MA
Ames	AM
Glenn	GL
Langley	LA
Dryden	DR
Goddard	GO
Stennis	ST
Johnson	JO
Kennedy	KE

Example File Format

Header (Non-Repeating Segment)

GCR Extension Data Element	Description	Contractor Initial Data Mapping	NF 533 Required/ Optional	OTHER CCR Required/ Optional	Field Name	St Pos	EndPos	Len	Format
HEADER:									
Record Type	Used by eGate to determine record type	'HD' for Header	Required	Required	RECORD_TYPE	1	2	2	CHAR
Contract Number	Contract Number (1b)	Header field— submitted with CONTRACTOR data or defaulted by interface or extension	Required	Required	CONTRACT_NUMBER	3	12	10	CHAR
	Latest definitive Modification Number(CR8197)				MOD_NUMBER	13	18	6	CHAR
Accrual Date	Date the data was generated for. Used by SAP as part of Oracle table key	Accrual Date, MM01YYYY, where MM is the Accrual Month and YYYY is the fiscal year	Required	Required	ACCRUAL_DATE	19	26	8	DATE MM01YYYY
Report Period End Date	Report Period End Date is a date(2)	Header field— submitted with CONTRACTOR data or defaulted by interface or extension	Required	Required	REP_END_DATE	27	34	8	DATE
Operating Days	Operating days(2).	Header field— submitted with CONTRACTOR data	Required	Optional unless Required by contract	OPER_DAYS	35	40	6	NUMERIC
Date Received	Date Received (1d)	System Date upon which the cost data is loaded into the CCR Extension	Required	Required	DATE_REC	41	48	8	DATE
CCR Format	'M' for Monthly and 'Q' for Quarterly (SIR2047)	Submitted with CONTRACTOR data	Required	Required	CCR_FORMAT	49	49	1	CHAR
Cost Unit of Measure	Cost Unit of Measure	Submitted with CONTRACTOR	Required	Required	COST_UOM	50	51	2	CHAR

CCR Extension Data Element	Description	Contractor Initial Data Mapping	NF 533 Required/ Optional	OTHER CCR Required/ Optional	Field Name	St Pos	EndPos	Len	Format
	(SIR2047)	data							
HRWYE Unit of Measure	Hour/Work-Year- Equivalent Unit of Measure (SIR2047)	Submitted with CONTRACTOR data	Required	Required	HR_WYE_UOM	52	53	2	CHAR
	Authorized Contractor Representative -- Name of Contractor Approving Officer (CR 8197)				AUTH_SIGNATURE	54	78	25	CHAR
	Authorized Contractor Representative Date Signed -- Date CCR is approved/signed by authorized contractor representative(CR 8197)				AUTH_SIGNATURE_DATE	79	86	8	DATE MMDDYYYY
Grand Total Cost Incurred Month (7a)	The Grand Total Contract Prior Month Actual Dollars Column 7a reports actual costs for the prior month.	Submitted with CONTRACTOR data	Required.	Optional. Only required if lower detailed line item data is submitted in monthly batch file.	GT_COST_INCUR_MONTH	87	99	13	CURRENCY(2)
Grand Total HR/WYE (7a)	The Grand Total Contract Prior Month Actual Hours Column 7a reports actual HR or WYE for the prior month.	Submitted with CONTRACTOR data	Required if detailed line item data is submitted in monthly batch file.	Required if detailed line item data is submitted in monthly batch file.	GT_HRWYE_PRIOR_MONTH	100	109	10	NUMERIC(1)
	The Grand Total Contract Prior Month Planned				GT_COST_PLANNED_MONTH	110	122	13	CURRENCY (2)

CCR Extension Data Element	Description	Contractor Initial Data Mapping	NF 533 Required/ Optional	OTHER CCR Required/ Optional	Field Name	St Pos	EndPos	Len	Format
	Dollars Column (7b) reports planned costs for the prior month. (CR8197)								
Grand Total Cost Incurred ITD (7c)	The Grand Total Contract Cost Dollars Column 7c which represents Contract Cost Inception to Date	Submitted with CONTRACTOR data	Required. Does not require detailed line item data if provided from Cost Incurred Month (7a)	Required if detailed line item data is provided for this column	GT_ITD_COST	123	135	13	CURRENCY (2)
	Grand Total Contract Planned Cost Dollars Column (7d) which represents Planned Contract Cost Inception to Date(CR 8197)				GT_COST_PLANNED_ITD	136	148	13	CURRENCY (2)
Grand Total Estimated Cost (8a)	The Grand Total Contract Estimated Cost for first upcoming month, or Current Month Estimate for cost.	Submitted with CONTRACTOR data	Required	Required if detailed line item data is provided for this column	GT_EST_COST	149	161	13	CURRENCY (2)
Grand Total HRWYE (8a)	The Grand Total Contract Estimated Hours for first upcoming month, or Current Month Estimate for HRWYE.	Submitted with CONTRACTOR data	Required if detailed line item data is provided for this column	Required if detailed line item data is provided for this column	GT_HRWYE_FIRST_MONTH	162	171	10	NUMERIC (1)
Grand Total Next Month Estimated Cost (8b)	The Grand Total Contract Estimated Cost for second upcoming month or Next Month Estimate for cost.	Submitted with CONTRACTOR data	Required if detailed line item data is provided for this column	Required if detailed line item data is provided for this column	GT_NEXT_MONTH_EST	172	184	13	CURRENCY (2)

CCR Extension Data Element	Description	Contractor Initial Data Mapping	NF 533 Required/ Optional	OTHER CCR Required/ Optional	Field Name	St Pos	EndPos	Len	Format
	Grand Total Balance of Contract for the remaining estimate to complete (CR 8197)				GT_BALANCE_CONTRACT	185	197	13	CURRENCY (2)
	Grand Total Contractor Estimate for the total estimate to complete entire scope of contract (CR 8197)				GT_BALANCE_CONTRACTOR_ESTIMATE	198	210	13	CURRENCY (2)
	Grand Total Contract Value based upon Contract Modifications (CR 8197)				GT_CONTRACT_VALUE	211	223	13	CURRENCY (2)
	Grand Total Unfilled Orders Outstanding at end of reporting period (CR 8197)				ST_UNFILLED_ORDERS	224	236	13	CURRENCY (2)

Example File Format

Detail (Repeating Segment)

CCR Extension Data Element	Description	Contractor Initial Data Mapping	NF 533 Required/ Optional	OTHER CCR Required/ Optional	Field Name	St Pos	End Pos	Len	Format
CCR DETAIL LINE ITEMS:									
Record Type	'DM' for Monthly column 7a Detail; 'DQ' for ITD Column 7c Detail	'RD' for Detail	Required	Required	RECORD_TYPE	1	2	2	CHAR
Reporting Category	Reporting Category (6)	Line item field— submitted with CONTRACTOR data	Required	Required	SERV_ORD_CAT	3	26	24	CHAR
Cost Incurred Month (7a)	Prior Month incurred costs (ACTUALS) for given category.	Line item field— submitted with CONTRACTOR data	Required if detailed line item data is not provided from Cost Incurred Month (7c)	Determined by contract requirement- data from Column 7a, 7c or 8a	COST_INCUR_MONTH	27	39	13	CURRENCY (2)
HRWYE Incurred Month (7a)	Prior month incurred hours worked [Actuals] for given category..	Line item field— submitted with CONTRACTOR data	Optional unless Required by contract for WYE calculation	Optional unless Required by contract for WYE calculation	HRWYE_INCUR_MONTH	40	49	10	NUMERIC (1)
	Contract Prior Month Planned Dollars Column (7b) reports planned costs for the prior month (CR 8197)				COST_PLANNED_MONTH	50	62	13	CURRENCY (2)
	Contract Cost Dollars Column (7c) which represents Contract Cost Inception to Date (CR 8197)				CUR_COST_INCUR_ITD	63	75	13	CURRENCY (2)
	Contract Planned Cost Dollars Column (7d) which represents Planned Contract Cost Inception to Date (CR 8197)				COST_PLANNED_ITD	76	88	13	CURRENCY (2)
Current Month Estimated Cost (8a)	Estimated costs for first upcoming month for given category.	Line item field— submitted with CONTRACTOR data	Required.	Determined by contract requirement- data from Column 7a, 7c or 8a	CUR_MONTH_EC	89	101	13	CURRENCY (2)

CCR Extension Data Element	Description	Contractor Initial Data Mapping	NF 533 Required/Optional	OTHER CCR Required/Optional	Field Name	St Pos	End Pos	Len	Format
HR/WYE Current Month Estimate (8a)	Estimated hours for first upcoming month for given category. Will only be needed if labor hours are required to be submitted electronically per contract.	Line item field—submitted with CONTRACTOR data	Optional unless Required by contract for WYE calculation	8a Optional unless Required by contract for WYE calculation	HRWYE_CUR_MONTH_EST	102	111	10	NUMERIC (1)
Next Month Estimated Cost (8b)	Estimated costs for second upcoming month for given category.	Line item field—submitted with CONTRACTOR data	Required unless not part of Contract scope	Required unless not part of Contract scope	NEXT_MONTH_EC	112	124	13	CURRENCY (2)
	Balance of Contract for the remaining estimate to complete (8c) (CR 8197)				BALANCE_CONTRACT	125	137	13	CURRENCY (2)
	Contractor Estimate for the total estimate to complete entire scope of contract (9a) (CR 8197)				CONTRACTOR_ESTIMATE	138	150	13	CURRENCY (2)
	Contract Value based upon Contract Modifications (CR 8197)				CONTRACT_VALUE	151	163	13	CURRENCY (2)
	Unfilled Orders Outstanding at end of reporting period (CR 8197)				UNFILLED_ORDERS	164	176	13	CURRENCY (2)
	Used by SAP to determine Reporting Category Level (1.1.2.2.1) (CR 8197)				REPORTING_LEVEL	177	206	30	CHAR
	Fill in an 'X' if record is a Reporting Category. Otherwise, leave blank for Sub-Reporting Category Line Items and Element of Cost detail records. This field is used by SAP to determine if the record is a Reporting Category. (CR 8197)				REPORTING_CAT_INDICATOR	207	207	1	CHAR

Example File Format

Sub-Reporting Category Line Items – Repeating Segment

Field Name	Start Pos	End Pos	Length	Format	Variable Repetition (n, +, or -)	Description
SUB_RECORD_TYPE	1	2	2	CHAR		SM' for Monthly column 7a Detail; 'SQ' for ITD column Detail
SUB_REP_CAT	3	26	24	CHAR		Reporting Category
SUB_COST_INCUR_MONTH	27	39	13	CURRENCY (2)		Prior month incurred costs (Actuals) for given category.
SUB_HRWYE_INCUR_MONTH	40	49	10	NUMERIC (1)		Prior month incurred hours worked (Actuals) for given category.
SUB_COST_PLANNED_MONTH	50	62	13	CURRENCY (2)		Contract Prior Month Planned Dollars Column (7b) reports planned costs for the prior month.
SUB_CUR_COST_INCUR_ITD	63	75	13	CURRENCY (2)		Contract Cost Dollars Column (7c) which represents Contract Cost Inception to Date.
SUB_COST_PLANNED_ITD	76	88	13	CURRENCY (2)		Contract Planned Cost Dollars Column (7d) which represents Planned Contract Cost Inception to Date.
SUB_CUR_MONTH_EC	89	101	13	CURRENCY (2)		Estimated costs for first upcoming month for given category (8a).
SUB_HRWYE_CUR_MONTH_EST	102	111	10	NUMERIC (1)		Estimated hours for first upcoming month for given category. Will only be needed if labor hours are required to be submitted electronically per contract (8a).
SUB_NEXT_MONTH_EC	112	124	13	CURRENCY (2)		Estimated costs for second upcoming month for given category (8b).
SUB_BALANCE_CONTRACT	125	137	13	CURRENCY (2)		Balance of Contract for the remaining estimate to complete (8c).
SUB_CONTRACTOR_ESTIMATE	138	150	13	CURRENCY (2)		Contractor Estimate for the total estimate to complete entire scope of contract (9a).
SUB_CONTRACT_VALUE	151	163	13	CURRENCY (2)		Contract Value based upon Contract Modifications (9b).
SUB_UNFILLED_ORDERS	164	176	13	CURRENCY (2)		Unfilled Orders Outstanding at end of reporting period.
REPORTING_LEVEL	177	206	30	CHAR		Used by SAP to determine Reporting Category Level (1.1.2.2.1) (CR 8197).
REPORTING_CAT_INDICATOR	207	207	1	CHAR		Fill in an "X" if record is a Reporting Category. Otherwise, leave Blank for Sub-Reporting Category Line Items and Element of Cost detail records.
						This field is used by SAP to determine if the record is a Reporting Category. (CR 8197)

Example File Format

533 Agency FILE RECORD LAYOUT (Element of Cost Detail – Repeating Segment (CR8197))

Field Name	Start Pos	End Pos	Length	Format	Variable Repetition (2, 1, n, n)	Description
RECORD_TYPE	1	2	2	CHAR		EM for Monthly column 7a Detail; EQ for ITD column Detail
EOC_REP_CAT	3	26	24	CHAR		Reporting Category
EOC_COST_INCUR_MONTH	27	39	13	CURRENCY (2)		Prior month incurred costs (Actuals) for given category.
EOC_HRWYE_INCUR_MONTH	40	49	10	NUMERIC (1)		Prior month incurred hours worked (Actuals) for given category.
EOC_COST_PLANNED_MONTH	50	62	13	CURRENCY (2)		Contract Prior Month Planned Dollars Column (7b) reports planned costs for the prior month.
EOC_CUR_COST_INCUR_ITD	63	75	13	CURRENCY (2)		Contract Cost Dollars Column (7c) which represents Contract Cost Inception to Date.
EOC_COST_PLANNED_ITD	76	88	13	CURRENCY (2)		Contract Planned Cost Dollars Column (7d) which represents Planned Contract Cost Inception to Date.
EOC_CUR_MONTH_EC	89	101	13	CURRENCY (2)		Estimated costs for first upcoming month for given category (8a).
EOC_HRWYE_CUR_MONTH_EST	102	111	10	NUMERIC (1)		Estimated hours for first upcoming month for given category. Will only be needed if labor hours are required to be submitted electronically per contract (8a).
EOC_NEXT_MONTH_EC	112	124	13	CURRENCY (2)		Estimated costs for second upcoming month for given category (8b).
EOC_BALANCE_CONTRACT	125	137	13	CURRENCY (2)		Balance of Contract for the remaining estimate to complete (8c).
EOC_CONTRACTOR_ESTIMATE	138	150	13	CURRENCY (2)		Contractor Estimate for the total estimate to complete entire scope of contract (9a).
EOC_CONTRACT_VALUE	151	163	13	CURRENCY (2)		Contract Value based upon Contract Modifications (9b).
EOC_UNFILLED_ORDERS	164	176	13	CURRENCY (2)		Unfilled Orders Outstanding at end of reporting period.
REPORTING_LEVEL	177	206	30	CHAR		Used by SAP to determine Reporting Category Level (1.1.2.2.1) (CR 8197).
REPORTING_CAT_INDICATOR	207	207	1	CHAR		Fill in an "X" if record is a Reporting Category. Otherwise, leave Blank for Sub-Reporting Category Line Items and Element of Cost detail records.
						This field is used by SAP to determine if the record is a Reporting Category. (CR 8197)

Example File Format

Trailer (provides the number of header & detail records sent from the contractor/vendor/center in order to verify the receipt of complete data after transmission)

CCR Extension Data Element TRAILER:	Description	Contractor Initial Data Mapping	NF 533 Required/ Optional	OTHER CCR Required/ Optional	Field Name	Start Pos	End Pos	Length	Format
Record Type	Used by eGate to determine record type	"TL" for Trailer	Required	Required	RECORD_TYPE	1	2	2	CHAR
Record Count	Count of the number of Detail records sent to process (Detail Only)	Trailer field submitted with CONTRACTOR data	Required	Required	RECORD_COUNT	3	9	7	NUMERIC
	Value of spaces				FILLER	10	207	198	CHAR

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

2. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Quality Manual	04/05/05	06	

4. Use (Define need for, intended use of, and/or anticipated results of data)

The Quality Manual is used to document the specific details of the Contractor's Quality Management System (QMS) including management commitment to quality, system elements, policy, and practice. The Manual is used to assess the proposed QMS for compliance with ANSI/ISO/ASQ Q9001-2000.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> SR&QA			
6. References (Optional) JPD 5335.1, Quality Policy ANSI/ISO/ASQ Q9001-2000, Quality Management Systems Requirements Section C-3.4.1 Quality Management System Section C-10.3.1, Quality		7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan DRD 07 Contractor Quality Metrics	

8. Preparation Information (Include complete instructions for document preparation)

Scope:

The Quality Manual shall be in accordance with the requirements of ANSI/ISO/ASQ Q9001-2000, Quality Management System Requirements, and JPD 5335.1, Quality Policy. The Contractor's QMS shall describe the Contractor's approach to accomplishing tasks in accordance with JPD 5335.1 rather than the actual performance of specific work elements/tasks.

Contents:

Each element of the contractually imposed QMS requirements shall be addressed in narrative form, and in sufficient detail to describe the philosophy and approach for implementation.

1. List policies and procedures that will be used to meet each QMS requirement. Existing policies and procedures may be utilized where these can meet contractual requirements. The Manual shall include traceability from the quality elements of ANSI/ISO/ASQ Q9001-2000 to the specific Contractor processes which support those elements.
2. Explain your process for determining appropriate quality indices and measurements and reporting those in accordance with DRD 07, Contractor Quality Metrics.
3. Explain your methods for measuring the achievement of your quality objectives.
4. Explain how you verify that all personnel performing work affecting product quality are competent as a result of appropriate education, training, skills, and experience. In addition

explain the system you will use to monitor and maintain this level of personnel competency required during the duration of the contract.

5. Explain how you will monitor, measure, and control the quality of products you produce as well as those produced by subcontractors. Explain how you will ensure that products, which do not conform to product requirements, are identified and controlled to prevent their unintended use or delivery.
6. Describe your responsibilities and requirements for planning and conducting audits (internal and external), and for reporting results and maintaining records.
7. Explain the processes you will implement to report problems, corrective actions, and resolution verification to the designated NASA Quality Organization.

Format:

Contractor's format in native format and compatible with standard JSC office software loads.

Maintenance:

Update as required to be consistent and up-to-date with process changes. All changes and updates to the Quality Manual shall be approved by NASA.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

3. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Contractor Quality Metrics	02/14/05	07	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To provide NASA management with a summary of Contractor's quality performance based on strategic goals and objectives.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> SR&QA			
6. References (Optional) Section C-3.4.1 Quality Management System		7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan DRD 06 Quality Manual	

8. Preparation Information (Include complete instructions for document preparation)

Scope:

The report shall provide a summary and analysis of quality performance data showing the Contractor's progress toward meeting predefined goals and objectives.

The reports shall include a measure of the extent to which planned activities are realized and planned results are achieved and a relationship between results achieved and resources used.

Maintenance:

Contractor quality performance metrics data shall be submitted as specified in the Data Requirements List (Quarterly).

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Property Management Plan	02/14/05	08	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To describe the Contractor's method of managing, tracking, and administering Government personal property.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA	
6. References (Optional) Section C-3.5 Property Management Section C-10.4 Laboratory Equipment and Facilities Section G.13 Installation-Accountable Government Property NPR 4200.2, Equipment Management Manual for Property Management	7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan
8. Preparation Information (Include complete instructions for document preparation)	

Scope:

The Property Management Plan defines the Contractor's use, maintenance, repair, protection, and preservation of Government-furnished property. It shall describe the Contractor's approach to receiving, handing, stocking, maintaining, protecting, and issuing Government property. The plan should include interaction and Department/Office responsibilities.

Contents:

This Plan shall reference those procedures, which constitute the Contractor's Property Management Manual and shall include at a minimum the following categories:

Property Management	Reports
Acquisition	Consumption
Receiving	Utilization
Identification	Maintenance
Records	Subcontractor Responsibilities
Movement	Control Disposition
Storage	Contractor Closeout
Physical Inventories	

The Plan shall also include information on how the Contractor will reconcile Contractor records with financial records and Center-unique considerations.

Property Reporting:

The Contractor shall provide property reporting per Clause 52.245-5.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Safety and Health Plan	02/14/05	09	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Establishes Safety, Health, and Environmental Compliance Plan for contractors providing support to JSC organizations.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> SR&QA			
6. References (Optional)		7. Interrelationships (e.g., with other DRDs) (Optional)	
OSHA TED 8.4, Voluntary Protection Plan (VPP) Policies and Procedures Manual JSC 17773, Instructions for Preparation of Hazard Analysis for JSC Ground Operations JPR 1700.1 JSC Safety and Health Handbook Section C-3.6, Safety and Environmental Health		DRD 01 Management Plan DRD 10 Safety and Health Program Self-Evaluation DRD 11 Monthly Safety and Health Metrics	
8. Preparation Information (Include complete instructions for document preparation)			

NOTE: UPON NASA APPROVAL, THE CONTRACTOR'S SAFETY, HEALTH, and ENVIRONMENTAL COMPLIANCE PLAN ("The Plan") BECOMES A CONTRACTUAL REQUIREMENT.

Frequency of submission: One time only (with the proposal).

Distribution: After the plan is approved by NASA, the Contracting Officer will retain the plan in the contract file. The contractor will send additional copies to each of the following:

NS/Safety and Test Operations Division (2 copies)
 SD13/Occupational Health Officer (1 copy)
 JA131 / Environmental Services (1 copy)
 Contracting Officer's Technical Representative (1 copy)

Subsequent revisions to the plan: The Contractor may revise the plan at any time or at the direction of the Government. Revisions are subject to Government review and approval. Distributions of approved revisions will be as described above.

Other deliverables: The requirements for this plan as detailed in the instructions on plan content below include instructions for specific reports and data to be submitted to the Government. These instructions are to be included in the plan and represent contractual commitments by the contractor to provide this information.

Format:

1. Cover page - to include as a minimum the signatures of Contractor's project manager and designated safety official (if different); NASA COTR; JSC Occupational Safety Branch; and the NASA Contracting Officer. Other signatures may be required at the discretion of the Government.
2. Table of Contents. See content below.
3. Body of plan - as required. Contractor's format is acceptable but should be traceable to the elements of the content below.
4. When preparing its plan, the offeror/contractor is expected to review all the items below and tailor its plan accordingly. Certain requirements set forth in this DRD may be specific for contractor operations performed at JSC, Ellington Field, Sonny Carter Training Facility, or White Sands Test Facility (WSTF); tailoring of the plan to the requirements of specific establishments is acceptable. The plan will clearly identify those resources to be provided by the contractor and provided by the Government. This review and supporting rationale is to be made available to the Government as part of this plan. It can be documented as a checklist or outline, inserted directly in the body of the plan, or in any format developed by the contractor that clearly conveys the results of this review including the basis for any underlying assumptions.

Authority: FAR 52.223-1 through -5, -10; NFS 18-23.70, 18-52.223-70, 18-52.223-73.

Content:

1. MANAGEMENT LEADERSHIP AND EMPLOYEE PARTICIPATION.

1.1. Policy. Provide the contractor's safety, health, and environmental compliance policy statement with the plan. Compare the contractor's policy statement with those of NASA and OSHA and discuss any differences.

1.2. Goals and Objectives.

1.2.1 Describe specific safety and health goals and objectives to be met. Discuss status of safety program using the "Performance Evaluation Profile" as safety performance criteria. Describe the contractor's approach to continuous improvement (including milestone schedule) using level 5 of the Performance Evaluation Profile as a guideline.

1.2.2. Describe Environmental Goals & Objectives to be met for the following:

a. Pollution Prevention and Source Reduction of:

- (1) Hazardous and Industrial Solid Wastes
- (2) Solid Wastes (trash, refuse)
- (3) Wastewater Discharges (sanitary sewerage)
- (4) Air Emissions
- (5) Medical & Radiological Discharges

b. Affirmative Procurement (Purchase of Environmentally Preferable Materials IAW Executive Order)

c. Hazardous Materials Handling/Purchasing/Reduction/Replacement

- d. Elimination from Specifications and Standards requirements for the use of Hazardous/Toxic Substances & Materials
- e. Use of an Environmental Planning Checklist to review & document Impacts of New and Modified Programs, Projects, Activities and Operations.
- f. Life cycle analysis and costing
- g. Incorporating Environmental Requirements in Subcontracts
- h. Participation in JSC Recycling
- i. Outreach programs

1.3. Management Leadership. Describe management's procedures for implementing its commitment to safety, health, and environmental compliance through visible management activities and initiatives including a commitment to exercise management prerogatives to ensure workplace safety and health. Describe processes and procedures to making this visible in all contract and subcontract activities and products. Include a statement from the project manager or designated safety official indicating that the plan will be implemented as approved and that the project manager will take personal responsibility for its implementation.

1.4. Employee Involvement. Describe procedures to promote and implement employee (e.g., non-supervisory) involvement in safety, health, and environmental compliance program development, implementation and decision-making. Describe the scope and breadth of employee participation to be achieved so that approximate safety and health risk areas of the contract are equitably represented.

1.5. Assignment of Responsibility. Describe line and staff responsibilities for safety and health program implementation. Identify any other personnel or organization that provides safety services or exercises any form of control or assurance in these areas. State the means of communication and interface concerning related issues used by line, staff, and others (such as documentation, concurrence requirements, committee structure, sharing of the work site with NASA and other contractors, or other special responsibilities and support.) As a minimum, the contractor will identify the following:

1.5.1. Safety Representative - identify by title the individual who will be trained and certified in accordance with JPR 1700.1 to be responsive to Center-wide safety, health, environmental, and fire protection concerns and goals, and who will participate in meetings and other activities related to the JSC Safety and Health program.

1.5.2. Company Physician/Occupational Injury/illness case manager - identify a point of contact who is responsible for the transfer or receipt of company medical data and who will be the primary contact for the company in the event any employee suffers a work related injury or illness (such as the company physician) by name, address, and telephone number to the JSC Clinic, mail code SD22. This will facilitate communication of medical data to contractor management. Prompt notification to the JSC Occupational Health/ Clinic shall be given of any changes that occur in the identity of the point of contact. A letter to the JSC Occupational Health Office can accomplish initial identification of point of contact and subsequent updates with a copy sent to the Contracting Officer. The initial letter is to be received by the Government prior to contract start.

1.5.3. Building Fire Wardens - provide a roster of fire wardens (their names, phone numbers and pagers, and mail codes). Contractor fire wardens are needed to facilitate the JSC fire safety program, including coordination of related issues with NASA facility managers and emergency planning and response officials and their representatives. Fire wardens will be trained in accordance with JPR 1700.1. The roster shall be maintained by letter to JSC Occupational Safety, mail code NS2, with copies to the

Contracting Officer and Contracting Officer's Technical Representative. The initial letter shall be received by the Government not later than 15 days after contract start.

1.5.4. Designated Safety Official - identify by title the official(s) responsible for implementation of this plan and all formal contacts with regulatory agencies and with NASA.

1.6. Provision of Authority. Describe consistency of the plan for compliance with applicable NASA and JSC requirements and contractual direction as well as applicable Federal, state, and local regulations and how compliance will be maintained throughout the life of the contract.

1.7. Accountability. Describe procedures for ensuring that management and employees will be held accountable for implementing their tasks in a safe and healthful and environmentally compliant manner. The use of traditional and/or innovative personnel management methods (including discipline, motivational techniques, or any other technique that ensures accountability) will be referenced as a minimum and described as appropriate.

1.8. Program Evaluation. The program evaluation consists of:

1.8.1. Participation in a Performance Evaluation Profile (PEP) survey at the request of the Government. The PEP survey normally will be scheduled and administered at the discretion of the Government. If the Government chooses not to do the PEP in a given year, the contractor may at its option initiate its own PEP by contacting JSC Occupational Safety, code NS2, for assistance. The contractor will not be required to take two or more PEP surveys in any contract year.

1.8.2. [Reserved.]

1.8.3. A written self-evaluation report to be delivered by Sept 30 of each year. The self-evaluation shall follow the VPP program evaluation report format found in OSHA TED 8.4, Voluntary Protection Programs (VPP) Policies and Procedures Manual, Appendix D, "Annual Submissions", as mandated by the cognizant OSHA regional office. Contractors who have submitted a written self-evaluation as a VPP site may submit their original report to OSHA in lieu of writing a new self-evaluation provided that all action plans and status are updated. The self evaluation shall as a minimum cover the elements of the approved safety and health plan.

1.8.4. Miscellaneous Reports. The contractor will acknowledge the following as standing requests of the Government and to be handled as described below.

a. Roster of Terminated Employees. Identify personnel terminated by contractor. Send to the JSC Occupational Health Officer, mail code SD13, no later than 30 days after the end of each contract year or at the end of the contract, whichever is applicable. At the contractor's discretion, the report may be submitted for personnel changes during the previous year or cumulated for all years. Information required:

- (1) Date of report, contractor identity and contract number.
- (2) For each person listed, provide name, social security number, and date of termination.
- (3) Name, address, and telephone number of contractor representative to be contacted for questions or other information.

b. Material Safety Data. The contractor shall prepare and/or deliver Material Safety Data for hazardous materials brought onto Government property or included in products delivered to the Government. This data is required by the Occupational Safety and Health Administration (OSHA) regulation, 29 CFR 1910.1200, "Hazard Communication", EPA "Emergency Planning and Community Right-to-Know (EPCRA, ref. 40 CFR 302, 311, 312); and the Texas Department of Health (TDH, ref.

Chapters 505-507 of the Health and Safety Code), and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities", as revised. 1 copy of each MSDS will be sent upon receipt of the material for use on NASA property to the JSC Central Repository, Occupational Health and Test Support, Mail Code SD13, along with information on new or changed locations and/or quantities normally stored or used. If the MSDS arrives with the material and is needed for immediate use, the MSDS shall be delivered to the Central Repository by close of business of the next working day after it enters the site.

c. Hazardous Materials Inventory. The contractor shall compile an inventory report of all hazardous materials it has located on Government property not less than annually, and which is within the scope of 29 CFR 1910.1200, "Hazard Communication"; and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities", as revised. The call for this annual inventory and instructions for delivery will be issued by the JSC Occupational Health and Test Support Office, mail code SD13. This information shall use the format used by JSC for chemical inventory compilation to provide the following:

- (1) the identity of the material;
- (2) the location of the material by building and room;
- (3) the quantity of each material normally kept at each location
- (4) peak quantity stored
- (5) actual or estimated rate of annual usage of each chemical

1.9. Government Access to Safety and Health Program Documentation. The contractor shall recognize in its plan that it will be expected to make all safety, health, and environmental documentation (including relevant personnel records) available for inspection or audit at the Government's request. Electronic access by the Government to this data is preferred as long as Privacy Act requirements are met and Government safety and health professionals and their representatives have full and unimpeded access for review and audit purposes. For contractor activities conducted on NASA property, the contractor will identify what records it will make available to the Government in accordance with the Voluntary Protection Program criteria of OSHA as implemented in JPR 1700.1, "JSC Safety and Health Handbook", as revised. For the purpose of this plan, safety, health, and environmental compliance documentation includes but is not limited to logs, records, minutes, procedures, checklists, statistics, reports, analyses, notes, or other written or electronic document which contains in whole or in part any subject matter pertinent to safety, health, environmental protection, or emergency preparedness.

1.10. The contractor may be requested to participate in the review and modification of safety requirements that are to be implemented by the Government including any referenced documents therein. This review activity will be implemented at the direction of the NASA Contracting Officer's Technical Representative in accordance with established NASA directives and procedures.

1.11. Procurement. Identify procedures used to assure that procurements are reviewed for safety, health and environmental compliance considerations and that specifications contain appropriate safety criteria and instructions. Set forth authority and responsibility to assure that safety tasks are clearly stated in subcontracts.

1.12. Certified Professional Resources. Discuss your access to certified professional resources for safety, health, and environmental protection. Discuss their roles in motivation/awareness, worksite analysis, hazard prevention and control, and training.

2. WORKSITE ANALYSIS. Hazards shall be systematically identified through a combination of surveys, analyses, and inspections of the workplace, investigations of mishaps and close calls, and the collection and trend analysis of safety and health data such as: records of occupational injuries and

illnesses; findings and observations from preventive maintenance activities; reports on hazardous substance spills and inadvertent releases to the environment; facilities related incidents related to partial or full loss of systems functions; etc. Hazards identified by any of the techniques identified below shall be ranked and processed in accordance with JPR 1700.1. All hazards on NASA property, which are immediately dangerous to life or health, shall be reported immediately to the Occupational Safety Office. All safety engineering products that address operations, equipment, etc., on NASA property will be subject to JSC S&MA review and concurrence unless otherwise waived by the JSC Occupational Safety Office.

2.1. Industrial Hygiene. Describe your industrial hygiene program and how it will be coordinated with the JSC government provided resources for industrial hygiene. In the event corporate resources are used to determine workplace exposures, copies of all monitoring data shall be provided to JSC Occupational Health within 15 days of receipt of results.

2.2. Hazard Identification. Describe the procedures and techniques to be taken to compile an inventory of hazards associated with the work to be performed on this contract. This inventory of hazards shall address the work specified in this contract as well as operations and work environments in the vicinity or in close proximity to contract operations. The results will be reported to the Government in a manner suitable for inclusion in facilities baseline documentation as a permanent record of the facility. Specific techniques to be considered include:

2.2.1. Comprehensive Survey – A “wall to wall” engineering assessment of the work site including facilities, equipment, processes, and materials (including wastes – (TNRCC/EPA solid & hazardous, radioactive, explosives, medical-infectious-biological)). The comprehensive survey will establish a baseline of hazards that may put contract assets at risk as early as is feasible, preferably at contract start.

2.2.2. Change (Pre-use) Analysis – Typically addresses modifications in facilities, equipment, processes, and materials (including waste); and related procedures for operations and maintenance. Change analyses periodically will be driven by new or modified regulatory and NASA requirements.

2.2.3. Hazard Analysis – may address facilities, systems/subsystems, operations, processes, materials (including waste), and specific tasks or jobs. Analyses and report formats will be in accordance with JSC 17773, “Instructions for Preparation of Hazard Analyses for JSC Ground Operations.”

2.3. Inspections.

2.3.1. Routine Inspections. Includes assignments, procedures, and frequency for regular inspection and evaluation of work areas for hazards and accountability for implementation of corrective measures. The contractor will describe administrative requirements and procedures for control of and regularly scheduled inspections for fire and explosion hazards. The contractor has the option, in lieu of this detail, to identify policies and procedures with the stipulation that the results (including findings) of inspections conducted on NASA property or involving Government furnished property will be documented in safety program evaluations or the monthly Accident/Incident Summary reports. Inspections will identify

- a. Discrepancies between observed conditions and current requirements, and
- b. New (not previously identified) or modified hazards.

2.3.2. Protective Equipment. Set forth procedures for obtaining, inspecting, and maintaining all appropriate protective equipment, as required, or reference written procedure pertaining to this subject. Set forth methods for keeping records of such inspections and maintenance programs.

2.4. Employee Reports of Hazards – identification of methods to encourage employee reports of hazardous conditions (e.g., close calls) and analyze/abate hazards. The contractor will describe steps it will take to create reprisal-free employee reporting with emphasis on management support for employees and describe methods to be used to incorporate employee insights into hazard abatement and motivation / awareness activities.

2.5. Accident and Record Analysis.

2.5.1. Mishap Investigation – identification of methods to assure the reporting and investigation of mishaps including corrective actions implemented to prevent recurrence. The contractor will describe the methods to be used to report and investigate mishaps on NASA property and on contractor or third party property. The contractor will describe its procedures for implementing use of NASA forms as specified in JPR 1700.1 and alternate forms used by contractor with emphasis on timely notification of NASA; investigation procedures; exercise of jurisdiction over a mishap investigation involving NASA and other contractor personnel; follow up of corrective actions; communication of lessons learned to NASA; and solutions to minimize duplications in reporting and documentation including use of alternate forms, etc. The contractor will discuss its procedures for immediate notification requirements for fires, hazardous materials releases, and other emergencies. The contractor will include appropriate details to address the use of NASA Form 1627, “Mishap Report” (or equivalent), including 24-hour and ten-day mishap reports to JSC Occupational Safety, mail code NS2. Note: the NASA Form 1627 is not attached since it is a three part carbonless form not conducive to reproduction. This form can be obtained from JSC’s Printing Services.

2.5.2. Trend Analysis – describe approach to performing trend analysis of data (occupational injuries and illnesses; facilities, systems, and equipment performance; maintenance findings; etc.) Discuss methods to identify and abate common causes indicated by trend analysis. In support of site-wide trend analysis to be performed by the Government, the contractor will discuss method of providing data as follows:

a. Accident/Incident Summary Report. The contractor shall prepare and deliver Accident/Incident Summary Reports as specified on JSC Form 288, “Accident / Incident Statistics” (attached), as revised. All new and open mishaps, including vehicle accidents, incidents, injuries, fires, and close calls shall be described in summary form along with current status. Negative reports are also required monthly. Report frequency is monthly; Date due is the 10th day of the month following each month reported. Report to be delivered to the JSC S&MA Directorate through the Safety and Test Operations Division, mail code NS2, by fax to 281-244-0426 or by attaching to an e-mail and transmitting to mishaps@ems.jsc.nasa.gov.

b. Log of Occupational Injuries and Illnesses. For each establishment on and off NASA property that performs work on this Contract, the Contractor shall deliver to the Government a copy of its annual summary of occupational injuries and illnesses (or equivalent) as described in Title 29, Code of Federal Regulations, Subpart 1904.5. Copy of all summaries as required above under Contractor’s cover letter. If contractor is exempt by regulation from maintaining and publishing such logs, equivalent data in contractor’s format is acceptable (such as loss runs from insurance carrier) which contains the data required by JSC Form 288. Data shall be compiled and reported by calendar year and provided to the Government within 45 days after the end of the year to be reported (e.g. not later than February 15 of the year following.)

3. **HAZARD PREVENTION AND CONTROL.** Identified hazards must be eliminated or controlled. In the multiple employer environment of the center, it is required that hazards including discrepancies and corrective actions be collected in a center wide information system (Hazard Abatement Tracking System (HATS) for risk management purposes. Describe your approach to implementing this requirement.

3.1. Appropriate Controls. Discuss approach to consideration and selection of controls. Discuss use of hazard reduction precedence sequence (see JPR 1700.1). Discuss approach to identifying and accepting any residual risk. Discuss implementation of controls including verifying effectiveness. Discuss scope of coverage (hazardous chemicals, equipment, discharges, waste, energies, etc.). Discuss proposed method for coordination with safety, health, environmental services, and emergency authorities at NASA.

3.2. Hazardous Operations and Processes. Establish methods for notification of personnel when hazardous operations and processes are to be performed in their facilities or when hazardous conditions are found to exist during the course of this contract. JPR 1700.1 will serve as a guide for defining, classifying, and prioritizing hazardous operations; 29 CFR 1910.119 will be the guide for hazardous processes. Develop and maintain a list of hazardous operations and processes to be performed during the life of this contract. The list of hazardous operations and processes will be provided to JSC as part of the plan for review and approval. JSC and the Contractor will decide jointly which operations and processes are to be considered hazardous, with JSC as the final authority. Before hazardous operations or processes commence, the Contractor will develop a schedule to develop written procedures with particular emphasis on identifying the job safety steps required. NASA will have access on request to any contractor data necessary to verify implementation. For all identified operations or processes that may have safety or health implications outside contract operations, the contractor shall identify such circumstances to the JSC Safety and Test Operations Division and Occupational Health and Test Support Office who will provide additional instructions for further NASA management review and approval.

3.3. Written Procedures. Identification of methods to assure that the relevant hazardous situations and proper controls are identified in documentation such as inspection procedures, test procedures, etc., and other related information. Describe methods to assure that written procedures are developed for all hazardous operations, including testing, maintenance, repairs, and handling of hazardous materials and hazardous waste. Procedures will be developed in a format suitable for use as safety documentation (such as a safety manual) and be readily available to personnel as required to correctly perform their duties.

3.4. Hazardous Operations Permits. Identify facilities, operations and/or tasks where hazardous operations permits will be required as specified in JPR 1700.1 such as confined space entry, hot work, etc.) Set forth guidance to adhere to established NASA JSC procedures. Clearly state the role of the safety group or function to control such permits.

3.5. Operations Involving Potential Asbestos Exposures. Set forth method by which compliance is assured with JSC Asbestos Control Program as established in JPR 1700.1, as revised.

3.6. Operations Involving Exposures to Toxic or Unhealthful materials. Such operations must be evaluated by the JSC Occupational Health Office and must be properly controlled as advised by same. JSC Occupational Health Office must be notified prior to initiation of any new or modified operation potentially hazardous to health.

3.7. Environmental Operations & Activities

3.7.1. Operations Involving Hazardous Waste. Identify procedures used to manage hazardous waste from point of generation through disposal. Clearly identify divisions of responsibility between contractor and NASA for hazardous waste generated throughout the life of the contract. Operations that occur on site at JSC, WSTF, SCTF, or Ellington Field must be evaluated by the JSC Environmental Services Office and must be properly controlled as advised by same. JSC Environmental Services Office must be

notified prior to initiation of any new or modified operations, equipment, systems, or activities generating new hazardous wastes or where the chemicals change or there are volume increases of 25% or more on site at JSC, SCTF, or Ellington Field.

3.7.2. Operations Involving New or Modified Emissions/Discharges to the Environment. Set forth methods for identifying new or modified emissions/discharges and coordinating results with the Environmental Services Office, mail code JA131. Set forth a plan of procedures to conduct pollution prevention, waste minimization or source reduction/elimination of environmental pollution. Address management and continuous improvement for the reduction of hazardous materials; substitution of non-hazardous or less hazardous materials for hazardous materials; proper segregation of hazardous wastes from non-hazardous wastes; and other methods described by NASA, EPA, GSA, and Executive Order for recycled content / affirmative procurement purchases. The JA131/Environmental Office is the single point of contact for coordinating all JSC environmental permits. Emphasis shall be placed on providing for sufficient lead time for processing permits through the appropriate state agency and/or the Environmental Protection Agency.

3.8. Discuss your responsibilities for maintaining facilities baseline documentation in accordance with JSC requirements. The contractor will implement any facilities baseline documentation tasks (including safety engineering) as provided in the contractor's plan approved by NASA or as required by Government direction.

3.9. Preventive Maintenance. Discuss approach to preventive maintenance. Describe scope, frequency, and supporting rationale for your preventive maintenance program including facilities and /or equipment to be emphasized or de-emphasized. Discuss methods to promote awareness in the NASA community (such as alerts, safety flashes, etc.) when preventive maintenance reveals design or operational concerns in facilities and equipment (and related processes where applicable).

3.10. Medical (Occupational Healthcare) Program. Discuss your medical surveillance program and injury /illness case management to evaluate personnel and workplace conditions to identify specific health issues and prevent degradation of personnel health as a result of occupational exposures. Discuss approach to Cardiopulmonary Resuscitation (CPR), first aid, and, return to work policies and the use of government provided medical and emergency facilities for the initial treatment of occupational injuries/illnesses.

3.11. Hazard Correction and Tracking. Discuss your system for correcting and tracking safety, health, and environmental hazards with particular emphasis on integration with JSC's Hazard Abatement Process (found online at <http://www.srqa.jsc.nasa.gov/HATS/>). (The scope is restricted to establishments at JSC, Sonny Carter Training Facility, and Ellington Field.) This includes the following:

3.11.1. Personnel awareness of hazards. Discuss your approach to communicate unsafe conditions and approved countermeasures to your employees. Discuss your approach to communicating such conditions to the Government and other contractors whose personnel may be exposed to such unsafe conditions. Discuss communications with facility managers. Discuss use of the NASA Lessons Learned Information System for both obtaining lessons from other sources and as a repository for lessons learned during performance of the contract.

3.11.2. Interim and Final Abatement Plans. Describe how you will approach interim and final abatement of hazards. Describe how you will provide data to the JSC Hazard Abatement Tracking System for all hazards that are not finally abated (all interim and final abatement actions completed) within 30 days of discovery. Discuss your approach to posting such plans using JSC Form 1240, "JSC Notice of Safety or

Health Hazard and Action Plan", or equivalent. Discuss compatibility of your system with JSC's system and the role of facility managers in abatement planning, implementation, and verification.

3.12. Disciplinary System. Describe your system for ensuring safety and health discipline in your personnel (including subcontractors). Describe your approach to modifying personnel behaviors when personnel are exhibiting discrepant safety and health performance.

3.13. Emergency Preparedness. Discuss approach to emergency preparedness and contingency planning which addresses fire, explosion, inclement weather, environmental spill /releases, etc. Discuss compliance with 29 CFR 1910.120 (HAZWOPER) and role in JSC Incident Command System (see JPR 1700.1 for details). Discuss methods to be used for notification of JSC emergency forces including emergency dispatcher, safety hotline, director's safety hotline, etc. Discuss establishment of pre-planning strategies through procedures, training, drills, etc. Discuss methods to verify emergency readiness.

4. SAFETY AND HEALTH TRAINING. Describe the contractor's training program including identification of responsibility for training employees to assure understanding of safe work practices, hazard recognition, and appropriate responses for protective and/or emergency countermeasures, including training to meet federal, state, and local regulatory requirements. In doing so, the contractor will factor parallel requirements found in other mandates such as environmental protection [example: 29 CFR 1910.38 for emergency action plans and fire prevention plans versus EPA Resource Conservation & Recovery Act (RCRA) for Emergency Planning and Community Right-to-know (EPCRA).] Describe approach to identifying training needs including traceability to exercises such as job safety analyses, performance evaluation profiles, hazard analyses, mishap investigations, trend analyses, etc. Describe approach to training personnel in the proper use and care of protective equipment (PPE). Discuss tailoring of training towards specific audiences (management, supervisors, and employees) and topics (safety orientation for new hires, specific training for certain tasks or operations). Discuss approach to ensure that training is retained and practiced. Discuss personnel certification programs. Certifications should include documentation that training requirements and physical conditions have been satisfied (examples include physical examination, testing, and on-the-job performance). Address utilization of JSC safety and health training resources (such as asbestos worker training/certification, hazard communication, confined space entry, lockout/tagout, etc.) as appropriate with particular emphasis on programs designed for the multiple employer work environment on NASA property. All training materials and training records will be provided to NASA, and other federal, State, and local agencies for their review upon request. If the contractor wishes to train their personnel in any regulatory mandated training, an agreement will be secured with JSC Occupational Safety Branch and Occupational Health and Test Support office prior to beginning training. The agreement will ensure that safety and health training resources available from NASA are utilized where appropriate and to ensure that contractor-supplied training is in agreement with JSC safety and health processes.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Safety and Health Program Self - Evaluation	02/14/05	10	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To provide timely, integrated performance visibility to enhance effective cost, schedule, and technical management, and to provide consolidated documentation on contract activities.

5. DRD Category: (check one)	<input checked="" type="checkbox"/> Technical	<input checked="" type="checkbox"/> Administrative	<input checked="" type="checkbox"/> SR&QA
6. References (Optional) Federal Register Notice 65:45649-45663 Section C-3.6 Safety and Environmental Health	7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan DRD 09 Safety and Health Plan DRD 11 Monthly Safety and Health Metrics		

8. Preparation Information (Include complete instructions for document preparation)

1. The Contractor must conduct an annual self-evaluation of its safety and health program as required by its safety and health plan.

2. Information Required:

- a. The internal assessment of safety and health program effectiveness during the report period (i.e., the previous year) indicating the status of goals or objectives previously established and areas of strength and weakness in Contractor safety program performance.
- b. Safety and health concerns and resolutions relating to JSC operations which may have been identified during the report period.
- c. Unresolved safety and health concerns relating to JSC operations which the Contractor feels merit attention of JSC safety and health management.
- d. The goals and objectives of the Contractor safety and health program for the next report period.
- e. An analysis of the Contractor's performance at JSC-administered establishments in each of the 32 VPP sub-elements found in the Federal Register Notice 65:45649-45663, July 24, 2000.
- f. Action plans for identified problem areas. Action plans must include schedule for periodic progress reports to the Government on a frequency agreed to by the Government and the Contractor for each problem area.

1. Format to be as required by the cognizant OSHA regional office. Contractors who have submitted a written self-evaluation as a VPP site may submit their original report to JSC in lieu of writing a new self-evaluation provided that all action plans and status are updated.

Report due September 30 of each year of contract period of performance.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Monthly Safety and Health Metrics	02/14/05	11	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Tracks effectiveness of Contractor Safety and Health Program activities.

5. DRD Category: (check one)	<input checked="" type="checkbox"/> Technical	<input checked="" type="checkbox"/> Administrative	<input checked="" type="checkbox"/> SR&QA
6. References (Optional) JPR 1700.1, JSC Safety and Health Handbook Section C-3.6 Safety and Environmental Health	7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan DRD 09 Safety and Health Plan DRD 10 Safety and Health Program Self-Evaluation		

8. Preparation Information (Include complete instructions for document preparation)

Frequency of submission: Monthly by 10th of month following month being reported.**Distribution:**

NS2/Occupational Safety Branch (2 copies)

SD13/Occupational Health Officer (1 copy)

NA/Contracting Officer's Technical Representative (COTR) (1 copy)

Format: electronic to NS2, SD13; hard copy to COTR. Send as Excel spreadsheet or in tables compatible with MS Word.**Definitions:** Refer to JPR 1700.1 and OSHA requirements for definitions of terms below.Scope. The scope of the information required is limited to the JSC-administered establishments of Houston Texas at NASA Parkway; Sonny Carter Training Facility; Ellington Field; and White Sands Test Facility.**Content:****I. Management Commitment and Employee Involvement.**

Date of Management Safety Committee Meeting		Type/Title of Meeting	No. of Managers Attending		No. of Supervisors Attending		No. of Non-Supervisory Attending	
This Month	Year to Date		This Month	Year to Date	This Month	Year to Date	This Month	Year to Date

Include electronic copies of minutes or representative information.

No. of Employee Safety Meeting		Type/Title of Meeting		No. of Employees Attending		No. of Managers / Supervisors Attending	
This month	Year to date			This month	Year to date	This month	Year to date

Include electronic copies of minutes or representative information

II. Worksite Analysis. Refer to JPG 1700.1 for definitions of terms.

Division	No. of Hazard Analyses				No. of Job Safety Analyses				No. of Routine Inspections			
	Required		Performed		Required		Performed		Required		Performed	
	This month	Year to date	This month	Year to date	This month	Year to date	This month	Year to date	This month	Year to date	This month	Year to date
Total												

III. Hazard Prevention and Control - hazards below were found during routine and special inspections, close calls, mishap investigations, etc., and require correction.

No. of Hazards Found			No. of Hazards Closed <30 days			No. of Hazards Open <30 days	No. of Hazards Open >30 days			No. of Hazards Closed >30 days			No. of JF1240s in place
Prior to month	This month	Year to date	Prior to month	This month	Year to date		Prior to month	This month	Year to date	Prior to month	This month	Year to date	

Attach copies (electronic ok if sent by e-mail) of JF 1240's (or equivalent) including monthly updates. Mark JF 1240's where abatement has been completed as closed.

IV. Safety and Health Training - List courses specific to loss control initiatives (such as slips/trips falls, material handling; etc.) Report other training as "Generic safety training not otherwise specified" (examples include Hazard Communication, Confined Space entry, HAZWOPER, system safety, job safety analysis, etc.) Do not include job proficiency course work where safety is an issue (such as radiography, welding, painting, etc.)

Contract NNJ06JE86C

Section J
Modification 60

RFP NNJ05106317R

Course Title	No. to be Trained	No. Trained	On Schedule

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Information Technology (IT) Plan	02/14/05	12	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To document the Contractor's approaches for IT implementation and management.5. DRD Category: (check one) ☐ Technical ☒ Administrative ☐ SR&QA

6. References (Optional)

JPD 2800.1, JSC IT Program
 JPD 2800.4, JSC IT Program Management
 JPR 2810.1C, JSC IT Security Handbook
 NPD 2810.1C, NASA Information
 Security Policy
 NPR 2810.1, Security of IT
 Section C-3.7.3, Information Technology
 Section C-10.7, LIMS
 Contract Clause I.10, NFS 1852.204-76,
 Security Requirements for Unclassified
 Information Technology Resources

7. Interrelationships (e.g., with other DRDs) (Optional)

DRD 01 Management Plan
 DRD 13 Data Management Plan

8. Preparation Information (Include complete instructions for document preparation)

Scope:

The Plan shall define the policies, processes, requirements, and standards that the Contractor will use to govern the planning, acquisition, development, management, security, and utilization of IT resources. The Plan shall detail the Contractor's approaches, policies, and procedures to be applied to the following areas. Details shall be in compliance with the requirements of JPD 2800.4.

Content:**1. Standard Operating Procedures**

- a. Configuration Management
- b. Data System and Website Development and Maintenance
- c. IT planning processes for determining and providing to NASA for approval, annual IT purchasing plans that support continuing S&MA IT requirements
- d. Methods for establishing goals for continuing IT process and system improvements, and the identification and incorporation of efficiencies

2. IT Strategic Planning

- a. Methods of identifying and prioritizing IT activities.
- b. Identification of current and planned IT development activities that includes scope, justification, completion dates, and impacts to current systems, data handling procedures, identification of JSC IT Standards used or requests for approval of non-JSC Standard IT, compliance with applicable NASA and Federal requirements for system operation and function (such as compliance with Section 508 of the Rehabilitation Act), and analysis of impacts or risks to IT security.
- c. Hardware and software acquisitions necessary to support SOW requirements. Acquisitions shall be prioritized and submitted to NASA for approval as part of the yearly budget cycle planning and review process.
- d. Identification of IT personnel who perform system administration and status of IRD required System Administrator Security Certification (Reference PIC 04-03).
- e. Details of ODIN-supplied seat and seat augmentation requirements with justifications.

3. IT Security Plan

The IT Security Plan shall describe the Contractor's approach for meeting and maintaining security integrity of data, systems, and facilities, and shall be in accordance with contract clause NFS 1852.204-76. Contents of the Plan include

- a. Processes and procedures that will be followed to ensure appropriate security of IT resources that are acquired, developed, or used under this contract.
- b. Government/Contractor relationships and responsibilities for all physical, personnel, and IT security required for the activity specified in the SOW.
- c. Processes and procedures that will be used to ensure security of data and data systems.
- d. Methodology used to ensure separation of duties of IT security and operational elements.
- e. Approach for integrating security requirements into functions as described in the SOW, including interfacing with subcontractors.
- f. Facility security capabilities, processes, and procedures used to maintain the security integrity for the facility.
- g. Description of type of facility and information processed in the facility as defined in JPR 2801.1C.

4. Emergency Preparedness and Disaster Recover Plan

- a. Processes and procedures that will be followed in the case of an emergency or disaster in order to secure and recover IT equipment, data, and data systems.
- b. Contact information for personnel (and back-ups) responsible for emergency preparedness and disaster recovery.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Data Management Plan	02/14/05	13	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To document the Contractor's approaches for data acquisition, control, storage, and dissemination.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional) JPD 2800.1, JSC IT Program JPD 2800.4, JSC IT Program Management Section C-3.7.4, Information Technology		7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan DRD 12 Information Technology Plan	
8. Preparation Information (Include complete instructions for document preparation)			

Scope:

The Plan shall describe the management, preparation, control, and dissemination of data and documentation required and produced under this contract in order to provide NASA with direct, on-going access to all data and documentation required to accomplish S&MA responsibilities. The plan shall include methods for identifying and acquiring SR&QA data and documents, requirements for storage, equipment and or methods of accessing data and documents, and data management philosophy.

Content:**1. Methods and controls for the management of all data and documentation generated by S&MA**

- Identification of data and document types including specifications, procedures, reports, presentations, and correspondence
- Methods for control of data and documentation (storage, security, access, export control)
- Methods for assuring data integrity

2. Consolidation of existing and required data and document resources:

- Assessment of data and documents required for the accomplishment of S&MA responsibilities.
- Assessment of data types and documents currently available within S&MA on web-sites, in databases, and in hardcopy.
- Comparison of requirements versus available data and identification of gaps.
- Plan and schedule to consolidate existing data and document repositories and addition of data identified in "c" that will support S&MA personnel in the accomplishment of day-to-day activities.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
S&MA Personnel Qualification Program Plan	02/14/05	14	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To establish a plan for the development and implementation of an S&MA Personnel Qualification Program.

5. DRD Category: (check one) <input checked="" type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional) Section C-4.1 S&MA Personnel Qualification Program Section 10.2.2 Training		7. Interrelationships (e.g., with other DRDs) (Optional) DRD 01 Management Plan	
8. Preparation Information (Include complete instructions for document preparation)			

The Contractor shall prepare an S&MA Personnel Qualification Program Plan that describes the following aspects of the Qualification Program development and implementation:

1. The Contractor shall produce and maintain a 5 year Training Program Plan. The plan shall consist of the following:
 - Details for developing Training Guides (scope and sequence documents for training core competencies, products and services, and processes.)
 - Needs and gap assessments based on projected program requirements. The needs and gap assessments will also include:
 - A Breakdown of core competencies, products and services, and processes into trainable units (essential skills).
 - Evaluation of the efficacy of training.
 - Training acquisition plan.
 - Schedule for providing various training deliverables (e.g. Training Acquisition Plan, Needs and Gap assessments).
 - Plan for measuring workforce proficiency levels.
 - Schedules for achieving workforce proficiency levels.
 - Address training of management/supervision in utilizing training as a tool to develop human capital.
 - Approach for benchmarking relevant processes to continuously improve the training program.
2. The contractor shall produce and maintain a plan for the administrative tasks that support the Training Program. The plan shall consist of the following:
 - A feedback mechanism for training metrics and an evaluation reporting system for training coordinated and facilitated by S&MA.

- Plan to ensure individual training plans are kept current and are tied to the strategic training program plan.
- A process to provide the S&MA Directorate an annual assessment of skill/training gaps. The process shall ensure the success of S&MA Strategic Training Program plan. (To include administrative, leadership and technical job categories).
- Details for the development and maintenance of the S&MA training web site.
- It will include ensuring clear mapping of the training, a path for each job category and level, and shall define courses and mechanisms for delivering the training.
- Details to maintain an electronic training management system that includes courses and records of training accomplished by the employee.

3. The Contractor shall deliver an implementation plan as a logical outgrowth of the Training Program Plan. The implementation plan shall address:

- All elements in the Training Plan.
- Development, coordination, and delivery of technical S&MA discipline training.
- Notification when new courses are added.
- Find course(s), if not currently available through JSC and S&MA resources, from other NASA or external resources.
- Coordinate communication of the contents of JSC Training department's quarterly training offerings packages with S&MA training coordinators (call notices to employees, managers and responses to JSC Human Resources).
- Provide support to S&MA contractor management to ensure certification requirements are maintained if and when they are identified. Work with Civil Servant Division Management to identify certification requirements that may need to be tracked if and when they are identified. Track training requirements and training accomplished/completed as identified in employee training plans for S&MA employees (Contractor and Civil Service) in a single electronic system.
- The S&MA functional training (and certification if required) provided by the contractor shall be for civil servant and contractor S&MA personnel.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
S&MA Prelaunch Assessment Presentations	TBD	15	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To provide NASA S&MA management with insight into status and issues associated with flight readiness.

5. DRD Category: (check one) <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> SR&QA			
6. References (Optional) NSTS 08117 SSP 50108 SSP 50231 Sections C-5.4.1.5 Mission Planning Section C-6.5.3.2 Prelaunch Assessments NFS 1852.225-70 EXPORT LICENSES (ALT I)		7. Interrelationships (e.g., with other DRDs)	
8. Preparation Information (Include complete instructions for document preparation)			

The Contractor shall prepare and present S&MA Prelaunch Assessment presentations for each flight covering both IVA and EVA activities that include:

- Mission summary
- Noncompliance Report (NCR) summary and status for items associated with the flight
- Open problems, planned resolutions, and resolution completion dates
- Risk summary that includes hazards and controls
- Issues associated with planned flight operations
- An S&MA Contractor recommendation regarding readiness to support the flight and any exceptions
- Special topics addressing individual mission goals and objects (as necessary for each flight)
- Back-up charts with more detail as needed to provide additional information on risk and issue areas

Emphasis shall be placed on the safety assessment of the flight and flight activities. The assessment shall include those risks that could cause injury or loss of vehicle or crew.

The presentations will be presented at the following reviews:

- S&MA Requirements Review (SMARR) – A NASA Headquarters managed S&MA review held for manned launches prior to the ISS Program SORR. The SMARR is chaired by the Headquarters S&MA officer.
- Prelaunch Assessment Review (PAR) – A JSC managed S&MA review held for unmanned launches prior to the ISS Program SORR. The PAR is chaired by the JSC S&MA Director.
- Stage Operations Readiness Review (SORR) – The SORR is the single ISS Program CoFR review, for both manned and unmanned launches, and precedes the FRR for manned

launches. The SORR provides certification of ISS Program readiness for launch, flight, and on-orbit activities. The requirements for the ISS Program CoFR process are documented in SSP 50108. In addition, each organization with requirements that support the ISS CoFR process has an organizational CoFR Implementation Plan. SSP 50231 is the Safety and Mission Assurance / Program Risk CoFR Implementation Plan.

- Center Director's Flight Readiness Review (CD FRR) – A JSC review prepared by each of the involved JSC Directorates (including JSC S&MA) for the JSC Center Director prior to participation in the FRR.
- Flight Readiness Review (FRR) – A NASA Headquarters review held approximately 2 weeks prior to launch. The FRR is chaired by the Associate Administrator, Office of Space Flight, and has a broad membership including the Center Directors from JSC, MSFC, KSC, and Stennis Space Center (SSC).
- Software Readiness Review (SRR) – A review conducted approximately 4 weeks prior to flight and is presented to the Manager, Avionics and Software Office. A status of all flight software products applicable to the flight is presented. This information is provided to NASA Headquarters at the FRR.

Flights operated by NASA may involve payloads developed by a NASA International Partner/Participant (IP/P), or include IP/P Crew Member(s). Pursuant to the terms of an international agreement NASA and its contractors are obligated to provide sufficient technical interchange with the IP/Ps to ensure safety and mission success during the performance of prelaunch assessment. The Contractor is required to transfer certain unclassified technical data to foreign person representatives from the following institutions:

- Japan Aerospace Exploration Agency (JAXA)
- European Space Agency (ESA)
- Brazilian Space Agency (AEB)
- Canadian Space Agency (CSA)

Technologies used in orbital transfer vehicles are classified as defense articles under the International Traffic in Arms Regulations (ITAR). In accordance with NFS 1852.225-70 EXPORT LICENSES (ALT I) the Contractor may request, in writing, that the Contracting Officer authorize it to export ITAR-controlled technical data pursuant to the exemption at 22 CFR 125.4(b)(3). All technical data relating to the above-described activities must be at the interface and operations level, and must not exceed that level of detail or information.

This requirement expressly does not extend to any defense services or technical assistance, nor to any technical data or know-how required for the detailed design, development, production, or manufacture of equipment or its related software, or for any defense article identified on the United States Munitions List (USML), 22 CFR Part 121, and is limited to data considered necessary to address safety and risk as part of prelaunch assessment. Additionally, non-public source code is not to be released or transferred.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Activity Reports	02/14/05	16	

4. Use (Define need for, intended use of, and/or anticipated results of data)

To provide insight into status of all activities under contract with special emphasis on significant issues and items on the critical path for flight support.

5. DRD Category: (check one) <input checked="" type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA	
6. References (Optional) Section C-6.0.f JSC Projects Support Section C-7.1.2.f Independent Assessment Section C-10.3.3 Quality	7. Interrelationships (e.g., with other DRDs) (Optional) DRD 03 Integrated Technical Management Report DRD 18 Evaluation Reports DRD 19 Assessment Plan and Report

8. Preparation Information (Include complete instructions for document preparation)

Minimum Data Requirements:

The Offeror's status reports shall be in a brief, informal, narrative format, which describes the progress of activities against planned work with reasons for differences and includes significant activities planned for the next reporting period.

Report items that are proceeding without issue and on schedule are to be provided for information. Report items, which include significant issues (technical, cost, or schedule) or are on the critical path for flight support will be discussed during weekly status reviews with NASA. Responsible Contractor personnel shall be available to present their statuses, respond to questions, and provide additional detail if requested.

Monthly summaries prepared from these reports will be used as technical inputs to the monthly Integrated Technical Management Reports.

Activity Reports prepared for specific Offices, Divisions, Customers, etc, shall include information specific to those organizations and be prepared to the specific requirements and frequency of that entity.

Format:

Format will vary but shall be prepared in MSWord, MSPowerPoint, or approved equal with a mutually agreed-to format for the audience or to the requirements of the entity receiving the report.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Trend Analysis (JSC Systems) Report	02/14/05	17	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Provide monthly report of failure and discrepancy trends in JSC facilities supported by S&MA.

5. DRD Category: (check one) ☒ Technical ☐ Administrative ☒ SR&QA

6. References (Optional)

Section C-6.4.3.2 Non-Conformances

7. Interrelationships (e.g., with other DRDs) (Optional)

8. Preparation Information (Include complete instructions for document preparation)

Scope:

Utilize existing JSC failure/discrepancy report data to develop trend data for each facility supported by S&MA. Provide trend charts which can be used to isolate problem areas, locate equipments with poor reliability, etc.

Content:

- Present trend data (failures/discrepancies) normalized to a common standard.
- Where possible, trend data shall cover a 12-month period.
- Data should be presented by facility and system (i.e., electrical, mechanical, fluid, test, test systems, etc.)

Submittal Requirements:

Monthly

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Evaluation Reports	02/14/05	18	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Reports the results of an Independent Assessment Office (IAO) Action to perform a high level evaluation of the need for a more in depth assessment of an issue or concern discovered during Contractor Program/Project awareness activities.

5. DRD Category: (check one) ☒ Technical ☐ Administrative ☐ SR&QA

6. References (Optional)

Section C-7.1 Independent Assessment
NPD 8700.1B NASA Policy for Safety and
Mission Success

7. Interrelationships (e.g., with other DRDs) (Optional)

DRD 03 Integrated Technical Management
Report
DRD 16 Activity Reports
DRD 19 Assessment Plans and Reports

8. Preparation Information (Include complete instructions for document preparation)

Format:

The contractor shall report results from assigned actions for evaluation to the IAO, and others when directed. The response shall be in Word document format, unless an alternate format (e.g., PowerPoint slide) is directed in the assigned action.

Content:

The report shall include the Purpose, Background, Observations, Findings, Recommendations, and Conclusions, as appropriate.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Assessment Plan and Reports	02/14/05	19	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Document the plan for conducting an assessment and, upon completion, report the results of the assessment work.5. DRD Category: (check one) ☒ Technical ☐ Administrative ☐ SR&QA

6. References (Optional)

Section C-7.1.1 Independent Assessment
NPD 8700.1B NASA Policy for Safety and
Mission Success

7. Interrelationships (e.g., with other DRDs) (Optional)

DRD 03 Integrated Technical Management
Report
DRD 16 Activity Reports
DRD 18 Evaluation Reports

8. Preparation Information (Include complete instructions for document preparation)

Format:

The IA website database shall be utilized for inputting plans and posting final assessment reports (plus interim reports when required).

Planning and reporting represents an integrated process. Assessment plans shall be prepared and submitted by the Contractor for approval by the NASA Independent Assessment Office (IAO) Manager.

Final assessment reports (plus interim when required) shall be posted in the IA website database in conjunction with the associated assessment plan after approval by the IAO Manager.

Content:

Plan content shall be as follows: (a) assessment number and title; (b) Program or Project, including point-of-contact; (c) purpose; (d) scope; (e) ground rules and assumptions; (f) other criteria; (g) approach, including required resources and schedule. Plan content shall be coordinated with the IAO and Program Point of Contract prior to approval by the IAO.

Report content shall include discussion of the Plan content cited above. In addition, Observations, Findings, Recommendations, and Conclusions shall be included as appropriate.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Facilities System Certification Report	02/14/05	20	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Provides a record of inspections and periodic assessments of inspected systems.5. DRD Category: (check one) ☒ Technical ☒ Administrative ☒ SR&QA

6. References (Optional)

Section C-9.1.1.d Pressure Systems
JPR 1710.13 Design, Inspection and
Certification of Pressure Vessels and
Pressurized Systems

7. Interrelationships (e.g., with other DRDs) (Optional)

8. Preparation Information (Include complete instructions for document preparation)

Scope:

The Pressure Systems Engineer(s) will perform the duties necessary to support a program of inspection, testing, and certification of those fired and unfired steam, cryogenic, and unfired liquid and gaseous ground-based pressure systems under the responsibility of the NASA Johnson Space Center, Houston, Texas.

Content:

A weekly report will be prepared identifying the number of pressure systems inspections which have been performed during this time period at the direction of the JSC Pressure Systems Manager. The report shall include the following data as applicable:

- Number of facility and laboratory pressure system inspections
- Types of pressure system inspections
- Deficiencies noted
- Corrective action taken/recommended

Submittal Requirements:

Weekly

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Wage/Salary and Fringe Benefit Data	02/24/05	21	

4. Use (Define need for, intended use of, and/or anticipated results of data)

The Wage/Salary and Fringe Benefit Data will be used by the NASA Contracting Officer and the Contract Labor Relations Office to provide the necessary data for submittal of Standard Form (SF) 98, Notice of Intention to Make a Service Contract and Response to Notice, to the Department of Labor, and to assist in the monitoring of Service Contract Act compliance.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA	
6. References (Optional) Clause I.2, FAR 52.222-41, Service Contract Act of 1965	7. Interrelationships (e.g., with other DRDs) (Optional)

8. Preparation Information (Include complete instructions for document preparation)

Distribution:

BJ4/Contracting Officer

BA2/Contract Labor Relations Officer

Initial Submission:

30 days after contract start

Submission Frequency:

Annually, 90 days prior to the anniversary of the contract

Scope:

The Wage/Salary and Fringe Benefit Data must be submitted by the Contractor, and any subcontractors which are subject to the provisions of the Service Contract Act, to the Contracting Federal Agency. In accordance with FAR regulations 22.1007 and 22.1008, the Contracting Officer is required to submit an SF 98 to the Department of Labor, Wage and Hour Division.

Contents:

The Wage/Salary and Fringe Benefit Data should contain the data included in the enclosed DRD forms:

- Wage/Salary Rate Information
- Fringe Benefit for Service Employees
- Fringe Benefits per Collective Bargaining Agreement

The Wage/Salary Rate information shall contain a listing of all exempt and nonexempt labor classifications working on the contract. Separate forms should be utilized for classifications working in different geographic areas and for each subcontractor. Wage determination numbers, appropriation labor organization names, and subcontractor names, must be reflected. All nonexempt labor classifications must be matched to wage determination classes or to Collective Bargaining Agreement(CBA) classifications for represented classes. Annotate exempt or nonexempt and union or nonunion. The current hourly rates should reflect the actual lowest and highest paid employees, along with a computed average rate. State the number of employees working in each category. Separate Fringe Benefit forms should be completed for nonrepresented classifications and for each separate CBA. A separate form must be completed for the prime and each subcontractor. Three hardcopies and one electronic copy of each CBA are required if organized labor is represented on your contract.

Format:

The Wage/Salary and Fringe Benefit Data should be in a format substantially the same as enclosed with the DRD (Forms 2, 3, and 3A).

Form 2

WORK SHEET FOR SF-98 DATA
WAGE RATE INFORMATION

<u>CONTRACTORS LABOR</u> <u>CLASSIFICATION</u>	<u>WAGE DETERMINATION</u> <u>CLASSIFICATION</u>	<u>EXEMPT OF</u> <u>NONEXEMPT</u>	<u>UNION OR</u> <u>NONUNION</u>	<u>CURRENT HOURLY</u> <u>RATE</u>	<u>MYE NO OF</u> <u>EMPLOYEES</u>
Illustration of required data:					
Project Manager	Not Required	E	N	\$40.00	1
Supervisor	Not Required	E	N	\$32.00	1
Electrical Engineer	Not Required	E	N	\$26.50 - 30.00	3
Engineering Tech, Jr	Engineering Tech, I	N	N	\$14.00 - 17.00	12
Electrical Technician	Electronics Tech Maint II	N	U	\$19.02 - \$21.50	4
Secretary	Secretary I	N	N	\$14.52 - \$15.50	2
File Clerk	General Clerk II	N	N	\$9.86	1
Clerical Data Entry	Word Processor I	N	N	\$11.45 - \$12.90	3

Submit data in the above illustrated format for all labor classifications used, or planned to be used, on this contract.
All contractor labor classifications must be matched to wage determination classes listed in CBA's represented classes or classes shown in WD 94-2516 for nonrepresented classes.

<u>CONTRACTORS LABOR</u> <u>CLASSIFICATION</u>	<u>WAGE DETERMINATION</u> <u>CLASSIFICATION</u>	<u>EXEMPT OF</u> <u>NONEXEMPT</u>	<u>UNION OR</u> <u>NONUNION</u>	<u>CURRENT HOURLY</u> <u>RATE</u>	<u>MYE NO OF</u> <u>EMPLOYEES</u>
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FORM 3

FRINGE BENEFITS PER COLLECTIVE BARGAINING AGREEMENT

For period from _____ to _____

Contractor:

Contract Number:

Number of employees in bargaining unit _____

Total number of employees on contract _____

1. Shift Differential: (Describe any pay over and above base rates for 2nd, 3rd, weekend, or other shifts.)

2. Health and Welfare Items and Other Fringe Items: (Indicate whether or not coverage is provided to employees and state current average hourly cost per employee covered by a Collective Bargaining Agreement.)

Item	Coverage Provided (Yes or No)	Average Hourly Cost
a. Life Insurance		
b. Accidental Death		
c. Disability		
d. Medical and Hospital		
e. Dental		
f. Retirement Plan		
g. Savings/Thrift Plan		
h. Sick Leave		
i. Tuition		
j. Other (Describe)		

FORM 3 (continued)

3. Paid Absences:

	Service Requirement	Days per Year
a. Vacation		
b. Holiday		
c. Sick Leave		
d. Jury Leave		
e. Funeral Leave		
f. Military Leave		
g. Other (Describe)		

4. Severance Pay: (Briefly describe terms and amounts.)

5. Other Fringe Benefits: (Describe any other fringe benefits not included above, and show average hourly cost.)

6. Premium Pay: (Discuss all premium pay provisions not previously shown on this form.)

Signature of Company Representative

Date

FORM 3A

FRINGE BENEFITS FOR SERVICE EMPLOYEES

For Period from _____ to _____

Contractor:

Number of nonexempt employees on contract: _____

Total number of employees on contract: _____

1. Health and Welfare Items and Other Fringe Items:
(Indicate whether or not coverage is provided to employees and state current average hourly cost per service employee.)

<u>Item</u>	<u>Coverage Provided</u>	<u>Average Hourly Cost</u>
a. Life Insurance		
b. Accidental Death		
c. Disability		
d. Medical & Hospital		
e. Dental		
f. Retirement Plan		
g. Savings/Thrift Plan		
h. Sick Leave		
i. Tuition Reimbursement		
j. Other (Describe)		

2. Paid Absences

	<u>Service Requirement</u>	<u>Days per Year</u>
a. Vacation		
b. Holidays		
c. Sick Leave		
d. Jury Leave		
e. Funeral Leave		
f. Military Leave		
g. Other (Describe)		

Signature of Company Representative_____
Date

JSC DATA REQUIREMENTS DESCRIPTION (DRD)*(Based on JSC-STD-123)*

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Reprocurement Data Package	05/02/05	22	

4. Use (Define need for, intended use of, and/or anticipated results of data)

Provides requirements for delivery to NASA of information on specific items and supporting documentation related to analytical models, tools, data systems, web-sites, equipment, and data items acquired, produced, or maintained during the performance of this contract, and resource/cost information to be used for reprocurement activities.

5. DRD Category: (check one) <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional) Section I.7 Rights to Data		7. Interrelationships (e.g., with other DRDs) (Optional)	
8. Preparation Information (Include complete instructions for document preparation)			

CONTENTS:**Catalog of Items**

1. A catalog of all models, tools, data systems, web-sites, equipment, and data items acquired, produced, or maintained during the performance of this contract shall be developed which contains the following information:

- Unique name of item
- Version number, revision number, or release date as appropriate
- Brief description and purpose or use of item
- Location of electronic or physical item

2. Supporting documentation shall be submitted for the use of each item. The documentation shall include, at a minimum, the following information:

- Inputs required
- Governing assumptions or constraints, including definition of the configuration if pertinent to the model definition or its use
- Acceptance or certification history, including description of validation methods used
- Association or interrelationship with other items listed
- Application or operating system requirements
- Hardware/platform requirements

Resource/Cost Information

A data package shall be submitted containing the following resource/cost information:

1. Labor Resources

- List of all direct labor skills by labor category, segregated by current work breakdown structure (WBS)
- Estimate of the number of indirect labor skills such as business or computer support normally charged through an indirect expense pool or through a service center expense
- Current annual average straight time labor rates for all skills by labor category mapped by standard labor categories of the original RFP or the standard labor categories defined in the follow-on RFP if they differ from the original RFP and when these wages were last adjusted for escalation. Also indicate whether any adjustments are projected to be made prior to contract expiration
- Number of Full Time Equivalents (FTEs) and the estimated number of productive hours for each labor category currently on contract mapped by standard labor category of the original RFP or the standard labor categories defined in the follow-on RFP if they differ from the original RFP, segregated by current WBS.
- Seniority level of all skills on the current contract

2. Non-Labor Resources

- List of all materials, equipment, travel, supplies, etc., and the incurred annual cost by WBS.
- Provide a discussion associated with the major items identified above, such as the materials estimate includes a prompt payment discount of TBD% due to large volume discounts you have negotiated with your vendors.

3. Liability Cost

- The projected liability cost associated with unused accrued paid leave associated with non-exempt personnel.
- Provide a copy of any Collective Bargaining Agreements in place and a current status of any upcoming negotiations with a union.

4. Contractor-Owned Equipment

- List of all Contractor-owned equipment (at the time of delivery of this DRD) being used in the performance of the contract.
- The list of equipment shall include:
 - Description of the equipment (include make and model #)
 - Location of the equipment (address, building, and room #)
 - Date purchased
 - Purchase price of the equipment

- Current depreciated value of the equipment

FORMAT:

Electronic format of all submissions shall be compatible with JSC desktop standard applications. Organizational format of the supporting documentation shall be the Contractor's format.

OFFICE OF PRIMARY RESPONSIBILITY:

COTR

SUBMISSION REQUIREMENTS:

First Submission Date: At the CO's direction.

Frequency of Submission: No periodic submissions required per this DRD (this does not relieve the requirement for periodic or incremental deliveries per other DRDs).

Additional Submissions: End of period of performance – submission of current version of catalog, supporting documentation, and resource/cost information which have been updated since first submission.

MAINTENANCE:

All items, documentation, and data shall be maintained electronically. All documentation developed to support the use of each item shall also be maintained electronically. Both the items and supporting documentation shall be updated as necessary to perform the functions for which they were developed.

COPIES/DISTRIBUTION:

Per the DRL

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No.	RFP/Contract No. (Procurement)
Contract Phase-In Plan	04/19/05	23	

4. Use (Define need for, intended use of, and/or anticipated results of data)

This document establishes how the Offeror proposes to assume responsibilities 45 days prior to contract start date.

5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional) Section L.2.3.1(f)		7. Interrelationships (e.g., with other DRDs) (Optional)	
8. Preparation Information (Include complete instructions for document preparation)			

Each offeror shall provide the information requested in the following paragraphs plus any other items it considers relevant to its proposed phase-in plan.

The Offeror shall develop and submit a Phase-In Plan that describes in detail the plans for affecting a smooth phase-in in order to maintain efficient operations and ensure no break in support.

Phase-In will cover the period of March 16, 2006 through April 30, 2006. The start of the contract period of performance is May 1, 2006.

In the plan, the Offeror shall:

1. Describe in detail the plan for effecting a smooth phase-in without compromising effective and efficient safety and quality operations/activities of the current JSC Projects and Programs. Provide the management milestones, and all associated schedules that you believe are required from start of phase-in to the full assumption of contract responsibilities.
2. Describe the steps you will take, including any you have taken to date, to assure that the contract will be fully staffed at the effective date of the contract. Include a time-phased staffing plan and table of personnel sources sorted by the third level SOW functional areas, noting the percentage of the total workforce you intend to recruit from the following sources:
 - a. Offeror's own resources
 - b. Other divisions of the company
 - c. Incumbent contractor's workforce

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d. Outside recruitment

3. Describe in detail your plans for certifying and training your personnel for assuming operational responsibility, including key and critical personnel functions.

4. Discuss in detail your specific plans for successfully completing each phase-in performance milestone described below in paragraphs a. through f. For each milestone, offerors are requested to: (1) provide a detailed plan inclusive of responsible personnel, (2) provide all relevant interim and final schedule dates to be met, and (3) propose objective criteria that can be used to determine if the milestone has been achieved.

a. **Milestone 1 – Key Personnel:** The successful offeror has hired all personnel it proposed as key personnel and all of these personnel are performing phase-in work at the level proposed. This milestone shall be fully achieved no later than April 7, 2006.

b. **Milestone 2 – Staffing:** At least 90% of all personnel proposed to perform all contract requirements have provided written acceptance of firm job offers. This milestone shall be fully achieved no later than April 20, 2006.

c. **Milestone 3 – Property Management:** The successful offeror has implemented an appropriate system to account for all Government Furnished Property. Furthermore, the successful offeror is prepared to perform an inventory of that property and is prepared to sign for accountability of the property upon completion of the inventory. This milestone shall be accomplished no later than April 22, 2006.

d. **Milestone 4 – Staffing:** The successful offeror has completed JSC's clearance and badging as well as training requirements for all personnel necessary to perform the full scope of contract requirements. This milestone shall be full achieved no later than May 1, 2006.

e. **Milestone 5 – Accounting System:** The successful offeror has implemented an accounting system fully capable of accurately accounting for actual completion of SOW tasks down to the 4th level of the Work Breakdown Structure (WBS). This milestone shall be fully achieved no later than April 22, 2006.

f. **Milestone 6 – Union Negotiations:** The successful offeror has successfully completed all negotiations with any unions representing workers to be used in performance of this contract and has provided the Government with signed copies of all collective bargaining agreements (CBA's). This milestone shall be fully achieved no later than April 20, 2006.

g. **Milestone 7 – Subcontracts:** The successful offeror has all subcontracts in place and ready to perform contract requirements. This milestone shall be fully achieved no later than April 18, 2006.

J.2 APPLICABLE DOCUMENTS LIST

Document Number	Revision Level	Date	Title	SOW Reference
<u>Agency Policy and Requirements</u>				
NASA-STD-8729.1	Baseline	December 1, 1998	Planning, Developing, and Maintaining an Effective Reliability and Maintainability (R&M) Program	C-5.1.1
NPD 2190.1	Baseline	May 24, 2001	NASA Export Control Program Policy	C-3.3.1.j
NPD 2810.1C	Revision C	April 7, 2004	NASA Information Technology Security Policy	DRD 12
NPD 7120.4C	Revision C	December 6, 2004	Program/Project Management	DRD 03 DRD 04
NPD 9501.3A	Revision A	August 3, 2002	Earned Value Management	DRD 03
NPR 2810.1	Baseline	August 12, 2004	Security of Information Technology	I.10, DRD-01 DRD 12
NPR 4200.2B	Revision B	July 11, 1998	Equipment Management Manual for Property Custodians	G.13, DRD 08
NPR 6000.1G	Revision G	March 28, 2005	Requirements for Packaging, Handling, and Transportation for Aeronautical Space Systems, Equipment, and Associated Components	D.2(a)
NPR 7120.5C	Revision C	March 22, 2005	NASA Program and Project Management Processes and Requirements	DRD 04
NPR 8621.1A	Revision A	February 11, 2004	NASA Procedural Requirements for Mishap Reporting, Investigation, and Recordkeeping	C-5.4.2.5
NPR 9501.2D	Current Issue	(Rev D, 4/23/01)	NASA Contractor Financial Management Reporting	DRD 05
NPR 8000.4	Baseline with Change 1	13-Apr-04	Risk Management	DRD 01
<u>Agency and Program S&MA Requirements</u>				

NPD 8700.1B	Revision B	October 18, 2002	NASA Policy for Safety and Mission Success	DRD 18, DRD 19
NPR 8735.1A	Revision A	August 22, 2002	Procedure for Exchanging Parts, Materials, and Safety Problem Data Utilizing the Government Industry Data Exchange	C-8.5.3
NPR 8735.2 (w/Change 1)	Basic	March 30, 2004	Management of Government Safety and Mission Assurance Surveillance Functions for NASA Contracts	C-5.2.6.a, C-5.3.8.1, C-5.3.9.1, C-6.2.2.1, C-7.2.1

Safety and Environmental Health

NPD 8710.2D	Revision D	April 24, 2002	NASA Safety and Health Program Policy	C-3.6
NPR 8715.1 (w/Change 2)	Basic	March 30, 2004	NASA Safety and Health Handbook Occupational Safety and Health Programs	C-3.6
NPR 8715.3 (w/Change 2)	Basic	March 29, 2004	NASA Safety Manual	C-3.6
JPR 8550.1	Basic	November 2004	Environmental Compliance Procedural Requirements	C-3.6

Software Requirements and Policies

NASA-STD-8719.13B	B with Change 1	July 8, 2004	NASA Software Safety Standard	C-5.2.6.c, C-6.1.b
NASA-STD-8739.8	Initial	July 28, 2004	NASA Software Assurance Standard	C-6.1.b
NPD 2820.1A	Revision A	May 29, 1998	NASA Software Policies	C-6.1.b
NPR 7150.2	Initial	September 27, 2004	Software Engineering Requirements	C-6.1.b, C-7.3.1

JSC Policy and Directives

JPD 2800.1A	Revision A	May 18, 2001	JSC IT Program	C-3.7.1, DRD 12,
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DRD 13

JPD 2800.4	Basic	March 15, 2001	JSC IT Program Management	C-3.7.1, C-3.7.8 DRD 12, DRD 13
JPD 5335.1E	Revision E	January 23, 2003	JSC Policy Directive - Quality Policy	C-3.4.1, DRD 06
JPR 1700.1I	Revision I	July 2002	JSC Safety and Health Handbook	DRD 09, DRD 11
JPR 2810.1C	Revision C	October 2004	JSC Information Technology Handbook	DRD 12
JPR 5322.1F	Revision F	February 2005	Contamination Control Requirements Manual	C-6.2.2.3

Program and Center Requirements Documents

EA-WI-023	Revision C	January 2002	Project Management of GFE Flight Projects	C-6.0.c
JPG 1710.13C	Revision C	August 2002	Design, Inspection, and Certification of Pressure Vessels and Pressurized Systems	C-9.1.1, C-9.1.1.c, DRD 20
JSC 17481	Revision B	February 2003	Safety Requirements Document for JSC Space Shuttle Flight Equipment	C-6.5.3.3
JSC 17773	Revision C	December 2001	Instruction for Preparation of Hazard Analysis for JSC Ground Operations	C-6.3.1.1.2, DRD 09
JSC 23642	Revision E	October 22, 2001	JSC Fastener Integrity Testing Program	C-10.1.1.a
JSC 28035	Revision A	May 19, 2001	JSC Government Furnished Equipment (GFE) Problem Reporting and Corrective Action (PRACA) Requirements	C-6.4.3.3
JSC 28222	Revision E	February 6, 2004	EVA Project Certification of Flight Readiness Requirements and Implementation Plan	C-6.5.3.4
JSCM 8080.5 E-24	Revision .5	April 1, 1991	JSC Design and Procedural Standards Manual	C-10.1.1.f

KHB 1700.7	Revision C	August 19, 1999	Space Shuttle Payload Ground Safety Handbook	C-6.3.1.1.2
KHB 1710.2	Revision E	April 2002	KSC Safety Practices Handbook	C-6.3.1.1.2
NSTS 07700, Volume VIII, Appendix R	Revision D	February 24, 1999	Operations	C-5.4.2.4
NSTS 08117	Revision M	February 23, 2004	Requirements and Procedures for Certification of Flight Readiness	C-6.5.3.2, C-6.5.3.4, DRD 15
NSTS 08126	Revision J	August 27, 2004	Space Shuttle Problem Reporting and Corrective Action (PRACA) System Requirements	C-5.3.2, C-6.4.3.3
NSTS 1700.7	Revision B	January 1989	Safety Policy and Requirements for Payloads Using the STS	C-6.3.2
NSTS 1700.7, ISS Addendum	Revision B	December 1995	Safety Policy and Requirements for Payloads Using the International Space Station	C-6.3.2
NSTS 13830	Revision C	July 1998	Payload Safety Review and Data Submittal Requirements	C-6.3.2
NSTS 22206	Revision D	December 10, 1993	Instructions for Preparation of Failure Modes and Effects Analysis and Critical Items Lists	C-5.2.5.c.1, C-6.3.1.1.1
NSTS 22254	Revision B	December 30, 1993	Methodology for Conduct of Space Shuttle Program Hazard Analyses	C-5.2.4.2.a, C-6.3.1.1.2, C-6.5.3.3
SN-D-0007	Revision B	April 9, 1998	Acceptance Data Package Requirements	C-6.4.5
SSP 30223	Revision K (Draft B)	May 2004	Problem Reporting and Corrective Action for the Space Station Program	C-5.3.2, C-6.4.3.3
SSP 30234	Revision F	July 2002	Instructions for Preparation of Failure Modes and Effects Analysis and Critical Items List (CIL) for Space Station	C-5.2.5.c.1, C-6.3.1.1.1
SSP 30309	Revision E	October 28, 1994	Safety Analysis and Risk Assessment Requirements Document	C-5.2.4.2.a, C-6.3.1.1.2, C-6.5.3.3
SSP 30524	Revision E	July 6, 1998	PRACA Data System Requirements Definition	C-5.3.2, C-6.4.3.3

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Document				
SSP 30695	Revision A	October 26, 1994	Acceptance Data Package Requirements Specification	C-6.4.5
SSP 50021	Basic	December 12, 1995	Safety Requirements Document	C-6.3.1.1.2
SSP 50108	Revision B (Draft)	April 2003	Certification of Flight Readiness Process Document, ISS Program, Space Shuttle Program Directive 52	C-6.5.3.4, DRD 15
SSP 50146 (Attachment D)	Revision A	October 1, 1998	NASA/RSA Bilateral S&MA Processes	C-6.3.1.1.2
SSP 50190	Revision A	May 12, 1999	ISS Contingency Action Plan	C-5.4.2.4
SSP 50231	Revision A	October 1, 2002	Safety and Mission Assurance Certificate of Flight Readiness Implementation Plan	DRD 15
<u>Industry Standards</u>				
ANSI ASQ Q9001-2000	N/A	N/A	Quality Management System Requirements	C-3.4.1, C-10.3.1, C-10.3.PS1, DRD 06
ISO/IEC-17025	Base	December 15, 1999	General Requirements for the Competence of Testing and Calibration Laboratories	C-10.0.c, C-10.3.2, C-10.3.PS2

J.3 DEFINITION OF TERMS

Term	Description
Acceptance Data Package (ADP)	Provides a complete and verified status of hardware or software at the point of delivery and enables the continuation of required activities by the using organization. The ADP is prepared as part of the hardware or software acceptance / delivery criteria and is maintained throughout the hardware or software life-cycle after Government acceptance, including integrated testing, ground processing, launch site processing, on-orbit, post-landing, and maintenance/modification/refurbishment activities.
Certification Data Package (CDP)	The CDP contains, by inclusion or reference, all information needed to provide objective evidence that the design meets the requirements. The CDP contains information pertaining to the acceptance and qualification activity for the qualification unit.
Critical Items List (CIL)	Documentation of failure modes derived from the FMEA that are deemed critical by the Programs. CIL's are used to identify high-risk items and the associated rationale for managerial decision-making purposes.
Failure Modes Effects Analysis (FMEA)	A "what if" analysis that addresses the potential effects resulting from postulating a possible failure mode for a given hardware item. FMEA's are used as a tool to analyze a design for compliance with Program fail-operational and fail-safe reliability requirements.
Government Mandatory Inspection Points (GMIP's)	Specific points during a process when an inspection by a Government Representative (i.e., S&MA support contractor, Defense Contract Management Agency) is required before the process can proceed. GMIP's are identified by the Government representatives to mitigate safety, mission, cost, or schedule risk to the Government by assuring contractor compliance to requirements or verifying that specific actions have occurred. They are not a substitute for contractor inspections and should not be used in place of needed corrective action.
Safety & Mission Assurance (S&MA)	Includes the disciplines/functions of safety, reliability, quality, availability, maintainability, supportability, assurance, software engineering, quality engineering, software quality assurance, and procurement quality assurance.
S&MA Personnel	Applies to all Directorate supporting personnel (both Government and Contractor).

J.4 ACRONYMS

A2LA	American Association for Laboratory Accreditation
ADP	Acceptance Data Package
ALERT	Acute Launch Emergency Reliability Tip
ANSI	American National Standards Institute
AR	Acceptance Review
ART	Anomaly Resolution Team
ASQ	American Quality Standard
CAP	Contingency Action Plan
CCL	Critical Command List
CD FRR	Center Director's Flight Readiness Review
CDR	Critical Design Review
CFE	Contractor Furnished Equipment
CFR	Code of Federal Regulations
CIL	Critical Items List
CMMI	Capability Maturity Model Integrated
CO	Contracting Officer
CoFR	Certification of Flight Readiness
COTR	Contracting Officer's Technical Representative
CPAR	Corrective/Preventive Action Requests
CPR	Cardiopulmonary Resuscitation
CSS	Customer Service System
CSWG	Computer Safety Working Group
CWI	Certified Welding Inspector
DCMA	Defense Contract Management Association
DR	Discrepancy Report
DRD	Data Requirements Description
DRL	Data Requirements List
EEE	Electrical, Electronic, and Electromechanical
EPCRA	Emergency Planning and Community Right-to-Know

ESD	Electrostatic Discharge
EVA	Extravehicular Activity
EVAAT	EVA Assessment Team
FAR	Federal Acquisition Regulations
FCA	Functional Configuration Audit
FIT	Flight Investigation Team
FMEA	Failure Modes and Effects Analysis
FRR	Flight Readiness Review
GAAP	Generally Accepted Accounting Principles
GCAR	Government Certification Acceptance Record
GFE	Government Furnished Equipment
GIDEP	Government-Industry Data Exchange Program
GMIP	Government Mandatory Inspection Point
GSA	General Services Administration
GSI	Government Source Inspection
HATS	Hazard Abatement Tracking System
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCL	Hazardous Command List
HR	Hazard Report
IA	Independent Assessment
IAO	Independent Assessment Office
IFA	In-Flight Anomaly
IP	International Partner
IP/P	International Partners/Participants
IRD	Information Resources Directorate
ISAMP	Integrated Supplier Assurance Management Program
ISERP	Integration Safety Engineering Review Panel
ISL	Instrumentation Systems Laboratory
ISO	International Standards Organization
ISS	International Space Station

IT	Information Technology
ITSC	Information Technology Steering Council
JAEL	JSC Avionics Engineering Laboratory
JARSWG	Joint American Russian Safety Working Group
JSC	Johnson Space Center
JSERP	JSC Safety Engineer Review Panel
KSC	Kennedy Space Center
LIMS	Laboratory Information Management System
LLIS	Lessons Learned Information System
LOD	Letter of Delegation
LOE	Level of Effort
MEMS	Micro-Electromechanical Systems
MER	Mission Evaluation Room
MMOD	Micro-Meteoroid and Orbital Debris
MMT	Mission Management Team
MRR	Manufacturing Readiness Review
MRR	Material Review Record
MSDS	Material Safety Data Sheet
MTBF	Mean-Time Between Failure
NACP	Network Access Control Board
NASA	National Aeronautics and Space Administration
NAVSEA	Naval Sea Systems Command
NCR	Non-Compliance Report
NCR	Non-Conformance Report
NDE	Non-Destructive Evaluation
NEPP	NASA Electronic Parts Packaging Program
NFS	NASA FAR Supplement
NSTS	National Space Transportation System
OSHA	Occupational Safety and Health Association
OSMA	Office of Safety and Mission Assurance

PAR	Prelaunch Assessment Review
PCA	Physical Configuration Audit
PDR	Preliminary Design Review
PEP	Performance Evaluation Profile
PPE	Personal Protective Equipment
PQA	Procurement Quality Assurance
PRA	Probabilistic Risk Assessment
PRACA	Problem Reporting and Corrective Action
PRT	Problem Resolution Team
PSRP	Payload Safety Review Panel
PV/S	Pressure Vessel Systems
QAS	Quality Assurance Specialist
QMS	Quality Management System
QPAP	Quality & Product Assurance Panel
QWG	Quality Working Group
R&M	Reliability and Maintainability
RAMP	Risk Assessment Management Plan
RCL	Restricted Command List
RCRA	Resource Conservation and Recovery Act
RID	Review Item Discrepancy
RITF	Receiving Inspection and Test Facility
RSA	Russian Space Agency
RTOP	Research Technology Objectives and Plans
S&MA	Safety and Mission Assurance
SAIL	Shuttle Avionics Integration Laboratory
SAR	Safety Assessment Report
SAR	System Acceptance Review
SAS	Supplier Assessment System
SCTF	Sonny Carter Training Facility
SDP	Safety Data Package

SMARR	S&MA Readiness Review
SMART	Safety and Mission Assurance Review Team
SMT	Surface Mount Technology
SORR	Stage Operations Readiness Review
SOVAR	Safety Observation and Variance Assessment Report
SOW	Statement of Work
SPC	Statistical Process Control
SR	Service Request
SR&QA	Safety, Reliability and Quality Assurance
SRP	Safety Review Panel
SRR	Software Readiness Review
SSP	Space Shuttle Program
SSRP	System Safety Review Panel
STS	Space Transportation System
SVL	Survey Vendor List
SWATT	Software Assurance Technology Team
SWG	Safety Working Group
TDH	Texas Department of Health
TED	Technical Education Document
TIM	Technical Interchange Meeting
TNRCC	Texas National Resource Conservation Commission
TPS	Task Performance Sheet
TRR	Test Readiness Review
VBDB	Vehicle Master Database
VCN	Verification Closure Notice
VPP	Voluntary Protection Program
VTL	Verification Tracking Log
VWAR	Virtual Work Authorization Record
WBS	Work Breakdown Structure
WSTF	White Sands Test Facility

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J.5 AWARD FEE PLAN

Contract Number _____

Contractor _____

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- I. Introduction**
- II. Organizational Structure for Award Fee Administration**
- III. Evaluation Requirements**
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Attachments:

- A Grading Table**
- B Evaluation Periods and Maximum Available Award Fee for Each Award Fee Period (AFP)**
- C Performance Evaluation Factors and Evaluation Criteria**
- D Performance Score Conversion Chart**

APPROVED BY:

Name	Title	Date
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I. Introduction

In accordance with the provisions of Federal Acquisition Regulation 16.405-2 and NASA FAR Supplement (NFS) 1816.405-2, an award fee evaluation procedure is hereby established for determination of award fee(s) payable under this contract. The fee arrangement outlined in this plan has been established to motivate the Contractor to strive for excellence in the quality and timeliness of technical, management, and cost performance. The payment of any award fee is contingent upon compliance with contract requirements and performance to the degree specified in Attachment A.

The Contractor's performance will be evaluated by the Government, in accordance with the procedures set forth below, at the expiration of each evaluation period specified in Attachment B. The evaluation to be performed by the Government will be based on the Government's assessment of the Contractor's accomplishment of the various areas of work covered by the Statement of Work, in accordance with the criteria, weightings, procedures, and other provisions set forth below.

This plan may be revised unilaterally by the Government at the beginning of an evaluation period by timely notice to the Contractor in writing.

II. Organizational Structure for Award Fee Administration

The following organizational structure is established for administering the award fee provisions of the contract.

A. Fee Determination Official (FDO)

The FDO, a senior NASA official, will determine the Contractor's performance score in accordance with the procedures set forth below. After considering available and pertinent information and recommendations, the FDO will make a performance determination for each period. The FDO will appoint the PEB Chairperson and members.

B. Performance Evaluation Board (PEB)

A PEB, comprised of selected NASA technical and administrative personnel, will evaluate the Contractor's performance after each evaluation period to determine whether and to what extent the Contractor's performance during the evaluation period is deserving of the payment of award fee. The PEB chair will be an S&MA Directorate Manager. The PEB, at the end of each evaluation period, will prepare a summary of the evaluations for review by the Fee Determination Official (FDO). This summary will include a recommendation to the FDO for the adjectival rating and numerical score to be assigned for the Contractor's performance in the preceding evaluation period.

C. Performance Monitors

NASA Performance Monitors shall monitor, evaluate, and assess the Contractor's performance in assigned areas and discuss the evaluation results with Contractor counterparts as appropriate. They will periodically prepare reports for the PEB. The monitor assignments may

change at any time without advance notice to the Contractor. The Contracting Officer (CO) will notify the Contractor of all Performance Monitor assignments and changes.

III. Evaluation Requirements

The applicable evaluation requirements are attached as indicated below.

<u>Requirement</u>	<u>Attachment</u>
Grading Table	A
Evaluation Periods and Maximum Award Fee for Each Award Fee Period (AFP)	B
Performance Evaluation Factors and Evaluation Criteria	C
Performance Score Conversion Chart	D

IV. Method for Determining Award Fee

A determination of the award fee earned for each evaluation period will be made by the FDO within 45 days after the end of the period. The method to be followed in monitoring, evaluating, and assessing Contractor performance during the period, as well as for determining the award fee earned or paid, is described below.

A. Areas of Emphasis will be established by the Government for each performance period. No later than 45 days prior to the start of each evaluation period, the Contractor may submit to the CO, recommended areas of emphasis for the ensuing evaluation period. Consideration will be given to the Contractor's recommendations; however, it is the Government's responsibility to establish the specific areas of emphasis for each evaluation period.

B. The Contractor will be notified by the CO of the selected areas of emphasis no later than 10 days prior to the start of each new 6-month evaluation period. Emphasis will be directed at particular areas under the contract which appear to the Government to be deserving of special attention. Contractor's performance in these areas will be used in judging the Contractor's performance. These areas of emphasis will not necessarily cover the entire spectrum of performance that will be evaluated in determining award fee dollars earned. Other pertinent factors included under the contract and general factors bearing upon overall performance will be considered as the facts and circumstances of each period may require.

C. The Contractor will be apprised of a general assessment of performance at the mid-point of each evaluation period at the weekly COTR meetings. The purpose of these meetings will be to discuss any specific areas where the Contractor has excelled, and where future Contractor emphasis may be necessary. If during the performance assessment, a Corrective Action Plan is determined to be required, the Performance Monitor will provide written notice to the Contractor. The Contractor will submit the plan to the Technical Monitor within 15 calendar days of the notice.

D. Promptly after the end of each evaluation period, the PEB will meet to consider all the performance information it has obtained from the performance monitors and others involved in observing Contractor performance. At the meeting, the PEB will summarize its preliminary findings and recommendations in the Performance Evaluation Board Report (PEBR).

E. After the preliminary PEBR is completed, the PEB, or designated representative, may meet with the Contractor to discuss the Board's preliminary findings and recommendations. As requested by the PEB Chair, Monitors and other personnel involved in performance evaluation will attend the meeting and participate in discussions. At this meeting, the Contractor may provide a self-evaluation presentation (a copy of which is provided to the PEB) not to exceed 30 minutes in length. After meeting with the Contractor, the PEB will consider matters presented by the Contractor and finalize its findings and recommendations for the PEBR.

F. The Contractor may furnish a separate self-evaluation report within 5 calendar days following the end of each evaluation period. These self-evaluation reports shall not exceed 20 pages in length per each evaluation period. The PEB will not submit its recommendation to the Fee Determination Official (FDO) until (1) the Contractor's self-evaluation report has been received and considered, or (2) the Contractor has provided written notification that a self-evaluation report will not be submitted, or (3) the deadline for its submission has expired.

G. The PEB Chair will prepare the final PEBR for the period and submit it to the FDO for use in determining the award fee earned. The report will include an adjectival rating and a recommended performance score with supporting documentation. The Contractor will be notified of the PEB evaluation and recommended rating and score. The Contractor may provide additional information for consideration by the FDO. Such information will be delivered in writing to the Contracting Officer within 5 calendar days of notification to the Contractor of the recommended rating and score. When submitting the report, the Chair will inform the FDO of any additional information from the Contractor.

H. The FDO will consider the recommendations of the PEB, the PEBR, any information provided by the Contractor, and any other pertinent information in determining performance scores. The FDO's determination of the performance scores and the basis for this determination will be stated in the Award Fee Determination Report (AFDR).

I. The Award Fee Determination will be provided to the Contractor by the Contracting Officer.

V. Performance Evaluation and Criteria

Contractor performance will be evaluated at the contract level, not at the individual task or order level.

A. In evaluating the performance of the Contractor, the Government will evaluate major elements of Contractor performance including Technical, Management, and Cost Performance. The major performance areas will be considered independently to determine the degree of success the Contractor has demonstrated in arriving at a well-balanced contract performance.

B. The factors, criteria, and weighting for evaluation of Contractor performance for determination of award fee is defined in Attachment C.

C. Notwithstanding any of the above, a major breach of safety or security, as defined by clause 1852.223-75 of this contract, may result in an award fee score of zero for the affected evaluation period.

D. In order to earn any award fee, the Contractor must receive a numerical score of 61 or greater. Attachment A provides the performance level definition adjectival ratings and corresponding numerical scores that will be used in evaluating performance. The numerical grade ranges corresponding to these adjectival ratings and their conversion to total award fee earned are set forth in Attachment D. Attachment B provides the distribution of the available maximum award fee for each evaluation period.

Attachment – A Grading Table

Adjectival Rating	Performance Points Range	Description
Excellent	(100-91)	Of exceptional merit; exemplary performance in a timely, efficient and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance
Very Good	(90-81)	Very effective performance, fully responsive to contract requirements; contract requirements accomplished in a timely, efficient and economical manner for the most part; only minor deficiencies.
Good	(80-71)	Effective performance; fully responsive to contract requirements; reportable deficiencies, but with little identifiable effect on overall performance.
Satisfactory	(70-61)	Meets or slightly exceeds minimum acceptable standards; adequate results; reportable deficiencies with identifiable, but not substantial, effects on overall performance.
Poor/ Unsatisfactory	(less than 61)	Does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; deficiencies in one or more areas which adversely affect overall performance.

Attachment – B Evaluation Periods and Maximum Available Award Fee for Each Award Fee Period (AFP)

Period Number	Start Date	End Date	Max Available Award Fee
AFP-01	May 1, 2006	October 31, 2006	
AFP-02	November 1, 2006	April 30, 2007	
AFP-03	May 1, 2007	October 31, 2007	
AFP-04	November 1, 2007	April 30, 2008	
AFP-05	May 1, 2008	October 31, 2008	
AFP-06	November 1, 2008	April 30, 2009	
AFP-07	May 1, 2009	October 31, 2009	
AFP-08	November 1, 2009	April 30, 2010	
AFP-09	May 1, 2010	October 31, 2010	
AFP-10	November 1, 2010	April 30, 2011	

Award fee dollars available for each evaluation period not earned will not roll forward to subsequent award fee periods. Unearned fee will be removed from the maximum award fee available on the contract by unilateral contract modification.

In calculating AFP-01 through AFP-06, the Total Available Award Fee under clause B.2, ESTIMATED COST AND AWARD FEE, will be annualized divided by two to determine the amount for these periods. In calculating AFP-07 and AFP-08, the Total Available Award Fee under clause F.5, OPTION TO EXTEND COMPLETION DATE (Option 1), will be divided by two in determining the amount for each of these periods. In calculating AFP-09 and AFP-10, the Total Available Award Fee under clause F.5, OPTION TO EXTEND COMPLETION DATE (Option 2), will be divided by two in determining the amount for each of these periods.

Attachment – C Performance Evaluation Factors and Evaluation Criteria

<u>Factor</u>	<u>Identification</u>	<u>Weight</u>
1.0	Technical	40%
	Safety and Health	10%
2.0	Management (includes small business participation)	10%
	Small Business Goal achievement	15%
3.0	Cost	25%
TOTAL		100%

Evaluation Criteria**1. Technical Performance and Compliance with Safety and Health Requirements**

The Technical Evaluation Factor covers the performance of the Contractor in accomplishing the tasks within the Statement of Work. Performance criterion includes all aspects of quality and schedule for both technical, and safety and health performance.

The evaluation criteria include:

- Timeliness and effectiveness of performance in any technical areas of emphasis identified for an evaluation period.
- Initiatives proposed or implemented by the Contractor that improves products or support, consolidates activities, or improves efficiencies.
- Management and employee involvement in safety and health leadership and preventative activities.
- Providing a safe work environment; conducting annual inspections of all worksites and facilities managed; maintaining accident/incident files; timely reporting of mishaps; providing safety training for all personnel.
- Effectiveness in meeting or surpassing completion form standards as detailed in the SOW.

2. Management and Small Business Performance

The Management Evaluation Factor covers those activities performed by the Contractor for overall management and administration of all contract activity. This also includes the evaluation of the Contractor's success in achieving or surpassing the small business goals specified in the contract.

The evaluation criteria include:

- Timeliness and effectiveness of performance in any management areas of emphasis identified for an evaluation period

- Initiatives proposed or implemented by the Contractor that improves overall contract management.
- Effective use of resources; planning, organizing, and managing all contract activity; response to emergencies and other unexpected situations.
- Timely and accurate reporting in accordance with DRL/DRD requirements.
- Effectiveness in meeting all small business goals specified in the contract.
- Effectiveness in meeting or surpassing completion form standards as detailed in the SOW.

3. Cost Performance

The Cost Evaluation Factor covers the Contractor's actual cost performance relative to the negotiated contract cost, including variance analyses.

Attachment D – Performance Score Conversion Chart

Weighed Performance Score		Percentage of Available Award Fee
100		100%
99		99
98		98
97		97
96	Excellent	96
95		95
94		94
93		93
92		92
91		91
90		90
89		89
88		88
87		87
86	Very Good	86
85		85
84		84
83		83
82		82
81		81
80		80
79		79
78		78
77		77
76	Good	76
75		75
74		74
73		73
72		72
71		71
70		70
69		69
68		68
67		67
66	Satisfactory	66
65		65
64		64
63		63
62		62
61		61
60 and below		0

J.6 WAGE DETERMINATION

Standard Form 98E

Notice of Intention to Make a Service Contract and Response to Notice

Standard Form 98A

Notice of Intention to Make a Service Contract and Response to Notice (Attachment A)

Register of Wage Determinations Under the Service Contract Act

Wage Determination No: 2005-2516

Revision No.: 11

Date of Revision: 07/22/2009

State: Texas

Register of Wage Determinations Under the Service Contract Act

Wage Determination No: 2005-2512

Revision No.: 11

Date of Revision: 09/11/2009

State: New Mexico

WD 05-2512 (Rev.-11) was first posted on www.wdol.gov on 09/22/2009

REGISTER OF WAGE DETERMINATIONS UNDER
THE SERVICE CONTRACT ACT
By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON D.C. 20210

Shirley F. Ebbesen Division of
Director Wage Determinations

Wage Determination No.: 2005-2512
Revision No.: 11
Date Of Revision: 09/11/2009

States: New Mexico, Texas

Area: New Mexico Counties of Chaves, Dona Ana, Eddy, Grant, Hidalgo, Lincoln,
Luna, Otero, Sierra
Texas Counties of Culberson, El Paso, Hudspeth

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		11.62
01012 - Accounting Clerk II		13.49
01013 - Accounting Clerk III		15.70
01020 - Administrative Assistant		17.23
01040 - Court Reporter		14.27
01051 - Data Entry Operator I		9.57
01052 - Data Entry Operator II		10.56
01060 - Dispatcher, Motor Vehicle		13.09
01070 - Document Preparation Clerk		11.19
01090 - Duplicating Machine Operator		11.19
01111 - General Clerk I		9.37
01112 - General Clerk II		10.22
01113 - General Clerk III		11.48
01120 - Housing Referral Assistant		14.58
01141 - Messenger Courier		8.72
01191 - Order Clerk I		9.78
01192 - Order Clerk II		11.20
01261 - Personnel Assistant (Employment) I		11.64
01262 - Personnel Assistant (Employment) II		13.33
01263 - Personnel Assistant (Employment) III		14.54
01270 - Production Control Clerk		15.17
01280 - Receptionist		8.85
01290 - Rental Clerk		10.50
01300 - Scheduler, Maintenance		11.49
01311 - Secretary I		11.49
01312 - Secretary II		12.97
01313 - Secretary III		14.58
01320 - Service Order Dispatcher		11.49
01410 - Supply Technician		17.23
01420 - Survey Worker		13.70
01531 - Travel Clerk I		10.78

WD 05-2512 (Rev.-11) was first posted on www.wdol.gov on 09/22/2009

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****Fringe Benefits Required Follow the Occupational Listing****

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		11.62
01012 - Accounting Clerk II		13.49
01013 - Accounting Clerk III		15.70
01020 - Administrative Assistant		17.23
01040 - Court Reporter		14.27
01051 - Data Entry Operator I		9.57
01052 - Data Entry Operator II		10.56
01060 - Dispatcher, Motor Vehicle		13.09
01070 - Document Preparation Clerk		11.19
01090 - Duplicating Machine Operator		11.19
01111 - General Clerk I		9.37
01112 - General Clerk II		10.22
01113 - General Clerk III		11.48
01120 - Housing Referral Assistant		14.58
01141 - Messenger Courier		8.72
01191 - Order Clerk I		9.78
01192 - Order Clerk II		11.20
01261 - Personnel Assistant (Employment) I		11.64
01262 - Personnel Assistant (Employment) II		13.33
01263 - Personnel Assistant (Employment) III		14.54
01270 - Production Control Clerk		15.17
01280 - Receptionist		8.85
01290 - Rental Clerk		10.50
01300 - Scheduler, Maintenance		11.49
01311 - Secretary I		11.49
01312 - Secretary II		12.97
01313 - Secretary III		14.58
01320 - Service Order Dispatcher		11.49
01410 - Supply Technician		17.23
01420 - Survey Worker		13.70
01531 - Travel Clerk I		10.78

12020 - Dental Assistant	12.61
12025 - Dental Hygienist	25.83
12030 - EKG Technician	24.46
12035 - Electroneurodiagnostic Technologist	24.46
12040 - Emergency Medical Technician	12.83
12071 - Licensed Practical Nurse I	15.42
12072 - Licensed Practical Nurse II	17.25
12073 - Licensed Practical Nurse III	19.24
12100 - Medical Assistant	10.35
12130 - Medical Laboratory Technician	13.56
12160 - Medical Record Clerk	13.27
12190 - Medical Record Technician	14.84
12195 - Medical Transcriptionist	13.04
12210 - Nuclear Medicine Technologist	33.37
12221 - Nursing Assistant I	8.97
12222 - Nursing Assistant II	10.08
12223 - Nursing Assistant III	11.00
12224 - Nursing Assistant IV	12.35
12235 - Optical Dispenser	10.77
12236 - Optical Technician	9.26
12250 - Pharmacy Technician	12.19
12280 - Phlebotomist	13.52
12305 - Radiologic Technologist	23.81
12311 - Registered Nurse I	23.99
12312 - Registered Nurse II	28.64
12313 - Registered Nurse II, Specialist	28.64
12314 - Registered Nurse III	34.65
12315 - Registered Nurse III, Anesthetist	34.65
12316 - Registered Nurse IV	41.55
12317 - Scheduler (Drug and Alcohol Testing)	21.37
13000 - Information And Arts Occupations	
13011 - Exhibits Specialist I	19.15
13012 - Exhibits Specialist II	23.08
13013 - Exhibits Specialist III	26.14
13041 - Illustrator I	19.15
13042 - Illustrator II	23.08
13043 - Illustrator III	26.14
13047 - Librarian	23.66
13050 - Library Aide/Clerk	11.04
13054 - Library Information Technology Systems Administrator	21.36
13058 - Library Technician	17.24
13061 - Media Specialist I	14.39
13062 - Media Specialist II	17.24
13063 - Media Specialist III	19.23
13071 - Photographer I	12.83
13072 - Photographer II	16.45
13073 - Photographer III	20.57
13074 - Photographer IV	24.45
13075 - Photographer V	27.88
13110 - Video Teleconference Technician	14.70
14000 - Information Technology Occupations	
14041 - Computer Operator I	12.43

14042 - Computer Operator II	14.05
14043 - Computer Operator III	15.72
14044 - Computer Operator IV	17.47
14045 - Computer Operator V	19.35
14071 - Computer Programmer I (see 1)	21.28
14072 - Computer Programmer II (see 1)	26.36
14073 - Computer Programmer III (see 1)	
14074 - Computer Programmer IV (see 1)	
14101 - Computer Systems Analyst I (see 1)	
14102 - Computer Systems Analyst II (see 1)	
14103 - Computer Systems Analyst III (see 1)	
14150 - Peripheral Equipment Operator	12.43
14160 - Personal Computer Support Technician	22.41
15000 - Instructional Occupations	
15010 - Aircrew Training Devices Instructor (Non-Rated)	26.13
15020 - Aircrew Training Devices Instructor (Rated)	32.14
15030 - Air Crew Training Devices Instructor (Pilot)	37.89
15050 - Computer Based Training Specialist / Instructor	26.13
15060 - Educational Technologist	32.13
15070 - Flight Instructor (Pilot)	37.89
15080 - Graphic Artist	19.52
15090 - Technical Instructor	18.06
15095 - Technical Instructor/Course Developer	22.09
15110 - Test Proctor	14.58
15120 - Tutor	14.58
16000 - Laundry, Dry-Cleaning, Pressing And Related Occupations	
16010 - Assembler	7.38
16030 - Counter Attendant	7.38
16040 - Dry Cleaner	8.99
16070 - Finisher, Flatwork, Machine	7.38
16090 - Presser, Hand	7.38
16110 - Presser, Machine, Drycleaning	7.38
16130 - Presser, Machine, Shirts	7.38
16160 - Presser, Machine, Wearing Apparel, Laundry	7.38
16190 - Sewing Machine Operator	9.50
16220 - Tailor	10.05
16250 - Washer, Machine	7.91
19000 - Machine Tool Operation And Repair Occupations	
19010 - Machine-Tool Operator (Tool Room)	14.67
19040 - Tool And Die Maker	18.42
21000 - Materials Handling And Packing Occupations	
21020 - Forklift Operator	10.39
21030 - Material Coordinator	15.17
21040 - Material Expediter	15.17
21050 - Material Handling Laborer	8.84
21071 - Order Filler	10.19
21080 - Production Line Worker (Food Processing)	10.86
21110 - Shipping Packer	10.02
21130 - Shipping/Receiving Clerk	10.02
21140 - Store Worker I	8.93
21150 - Stock Clerk	12.38
21210 - Tools And Parts Attendant	10.86
21410 - Warehouse Specialist	10.86

23000 - Mechanics And Maintenance And Repair Occupations	
23010 - Aerospace Structural Welder	26.14
23021 - Aircraft Mechanic I	23.82
23022 - Aircraft Mechanic II	26.14
23023 - Aircraft Mechanic III	27.45
23040 - Aircraft Mechanic Helper	16.39
23050 - Aircraft, Painter	18.67
23060 - Aircraft Servicer	19.25
23080 - Aircraft Worker	20.78
23110 - Appliance Mechanic	14.67
23120 - Bicycle Repairer	11.33
23125 - Cable Splicer	20.80
23130 - Carpenter, Maintenance	14.67
23140 - Carpet Layer	13.69
23160 - Electrician, Maintenance	19.20
23181 - Electronics Technician Maintenance I	19.20
23182 - Electronics Technician Maintenance II	20.64
23183 - Electronics Technician Maintenance III	22.26
23260 - Fabric Worker	13.35
23290 - Fire Alarm System Mechanic	16.62
23310 - Fire Extinguisher Repairer	12.15
23311 - Fuel Distribution System Mechanic	18.42
23312 - Fuel Distribution System Operator	15.20
23370 - General Maintenance Worker	13.69
23380 - Ground Support Equipment Mechanic	23.82
23381 - Ground Support Equipment Servicer	19.25
23382 - Ground Support Equipment Worker	20.78
23391 - Gunsmith I	11.72
23392 - Gunsmith II	14.48
23393 - Gunsmith III	16.14
23410 - Heating, Ventilation And Air-Conditioning Mechanic	15.73
23411 - Heating, Ventilation And Air Contditioning Mechanic (Research Facility)	16.79
23430 - Heavy Equipment Mechanic	17.19
23440 - Heavy Equipment Operator	15.63
23460 - Instrument Mechanic	16.82
23465 - Laboratory/Shelter Mechanic	15.03
23470 - Laborer	8.84
23510 - Locksmith	14.67
23530 - Machinery Maintenance Mechanic	16.15
23550 - Machinist, Maintenance	15.98
23580 - Maintenance Trades Helper	10.75
23591 - Metrology Technician I	16.82
23592 - Metrology Technician II	17.87
23593 - Metrology Technician III	19.03
23640 - Millwright	17.46
23710 - Office Appliance Repairer	15.62
23760 - Painter, Maintenance	16.14
23790 - Pipefitter, Maintenance	17.02
23810 - Plumber, Maintenance	15.97
23820 - Pneudraulic Systems Mechanic	16.82
23850 - Rigger	16.82

23000 - Mechanics And Maintenance And Repair Occupations	
23010 - Aerospace Structural Welder	26.14
23021 - Aircraft Mechanic I	23.82
23022 - Aircraft Mechanic II	26.14
23023 - Aircraft Mechanic III	27.45
23040 - Aircraft Mechanic Helper	16.39
23050 - Aircraft, Painter	18.67
23060 - Aircraft Servicer	19.25
23080 - Aircraft Worker	20.78
23110 - Appliance Mechanic	14.67
23120 - Bicycle Repairer	11.33
23125 - Cable Splicer	20.80
23130 - Carpenter, Maintenance	14.67
23140 - Carpet Layer	13.69
23160 - Electrician, Maintenance	19.20
23181 - Electronics Technician Maintenance I	19.20
23182 - Electronics Technician Maintenance II	20.64
23183 - Electronics Technician Maintenance III	22.26
23260 - Fabric Worker	13.35
23290 - Fire Alarm System Mechanic	16.62
23310 - Fire Extinguisher Repairer	12.15
23311 - Fuel Distribution System Mechanic	18.42
23312 - Fuel Distribution System Operator	15.20
23370 - General Maintenance Worker	13.69
23380 - Ground Support Equipment Mechanic	23.82
23381 - Ground Support Equipment Servicer	19.25
23382 - Ground Support Equipment Worker	20.78
23391 - Gunsmith I	11.72
23392 - Gunsmith II	14.48
23393 - Gunsmith III	16.14
23410 - Heating, Ventilation And Air-Conditioning Mechanic	15.73
23411 - Heating, Ventilation And Air Contditioning Mechanic (Research Facility)	16.79
23430 - Heavy Equipment Mechanic	17.19
23440 - Heavy Equipment Operator	15.63
23460 - Instrument Mechanic	16.82
23465 - Laboratory/Shelter Mechanic	15.03
23470 - Laborer	8.84
23510 - Locksmith	14.67
23530 - Machinery Maintenance Mechanic	16.15
23550 - Machinist, Maintenance	15.98
23580 - Maintenance Trades Helper	10.75
23591 - Metrology Technician I	16.82
23592 - Metrology Technician II	17.87
23593 - Metrology Technician III	19.03
23640 - Millwright	17.46
23710 - Office Appliance Repairer	15.62
23760 - Painter, Maintenance	16.14
23790 - Pipefitter, Maintenance	17.02
23810 - Plumber, Maintenance	15.97
23820 - Pneudraulic Systems Mechanic	16.82
23850 - Rigger	16.82

30010 - Air Traffic Control Specialist, Center (HFO) (see 2)	35.15
30011 - Air Traffic Control Specialist, Station (HFO) (see 2)	24.24
30012 - Air Traffic Control Specialist, Terminal (HFO) (see 2)	26.69
30021 - Archeological Technician I	18.13
30022 - Archeological Technician II	20.27
30023 - Archeological Technician III	25.11
30030 - Cartographic Technician	25.12
30040 - Civil Engineering Technician	18.93
30051 - Drafter/CAD Operator I	14.51
30062 - Drafter/CAD Operator II	16.23
30063 - Drafter/CAD Operator III	19.99
30064 - Drafter/CAD Operator IV	26.25
30081 - Engineering Technician I	14.42
30082 - Engineering Technician II	17.00
30083 - Engineering Technician III	20.27
30084 - Engineering Technician IV	24.96
30085 - Engineering Technician V	29.37
30086 - Engineering Technician VI	34.85
30090 - Environmental Technician	19.33
30210 - Laboratory Technician	19.91
30240 - Mathematical Technician	24.90
30361 - Paralegal/Legal Assistant I	16.54
30362 - Paralegal/Legal Assistant II	20.49
30363 - Paralegal/Legal Assistant III	25.07
30364 - Paralegal/Legal Assistant IV	30.33
30390 - Photo-Optics Technician	22.90
30461 - Technical Writer I	23.68
30462 - Technical Writer II	28.97
30463 - Technical Writer III	35.05
30491 - Unexploded Ordnance (UXO) Technician I	22.34
30492 - Unexploded Ordnance (UXO) Technician II	27.03
30493 - Unexploded Ordnance (UXO) Technician III	32.40
30494 - Unexploded (UXO) Safety Escort	22.34
30495 - Unexploded (UXO) Sweep Personnel	22.34
30620 - Weather Observer, Combined Upper Air Or Surface Programs	19.46
30621 - Weather Observer, Senior (see 3)	19.97
31000 - Transportation/Mobile Equipment Operation Occupations	
31020 - Bus Aide	9.07
31030 - Bus Driver	14.11
31043 - Driver Courier	11.32
31260 - Parking and Lot Attendant	7.25
31290 - Shuttle Bus Driver	12.39
31310 - Taxi Driver	9.55
31361 - Truckdriver, Light	12.39
31362 - Truckdriver, Medium	14.19
31363 - Truckdriver, Heavy	17.82
31364 - Truckdriver, Tractor-Trailer	17.82
99000 - Miscellaneous Occupations	
99030 - Cashier	7.76
99050 - Desk Clerk	9.41
99095 - Embalmer	20.95
99251 - Laboratory Animal Caretaker I	9.70

30010 - Air Traffic Control Specialist, Center (HFO) (see 2)	35.15
30011 - Air Traffic Control Specialist, Station (HFO) (see 2)	24.24
30012 - Air Traffic Control Specialist, Terminal (HFO) (see 2)	26.69
30021 - Archeological Technician I	18.13
30022 - Archeological Technician II	20.27
30023 - Archeological Technician III	25.11
30030 - Cartographic Technician	25.12
30040 - Civil Engineering Technician	18.93
30061 - Drafter/CAD Operator I	14.51
30062 - Drafter/CAD Operator II	16.23
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30064 - Drafter/CAD Operator IV	26.25
30081 - Engineering Technician I	14.42
30082 - Engineering Technician II	17.00
30083 - Engineering Technician III	20.27
30084 - Engineering Technician IV	24.96
30085 - Engineering Technician V	29.37
30086 - Engineering Technician VI	34.85
30090 - Environmental Technician	19.33
30210 - Laboratory Technician	19.91
30240 - Mathematical Technician	24.90
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30362 - Paralegal/Legal Assistant II	20.49
30363 - Paralegal/Legal Assistant III	25.07
30364 - Paralegal/Legal Assistant IV	30.33
30390 - Photo-Optics Technician	22.90
30461 - Technical Writer I	23.68
30462 - Technical Writer II	28.97
30463 - Technical Writer III	35.05
30491 - Unexploded Ordnance (UXO) Technician I	22.34
30492 - Unexploded Ordnance (UXO) Technician II	27.03
30493 - Unexploded Ordnance (UXO) Technician III	32.40
30494 - Unexploded (UXO) Safety Escort	22.34
30495 - Unexploded (UXO) Sweep Personnel	22.34
30620 - Weather Observer, Combined Upper Air Or Surface Programs (see 3)	19.46
30621 - Weather Observer, Senior (see 3)	19.97
31000 - Transportation/Mobile Equipment Operation Occupations	
31020 - Bus Aide	9.07
31030 - Bus Driver	14.11
31043 - Driver Courier	11.32
31260 - Parking and Lot Attendant	7.25
31290 - Shuttle Bus Driver	12.39
31310 - Taxi Driver	9.55
31361 - Truckdriver, Light	12.39
31362 - Truckdriver, Medium	14.19
31363 - Truckdriver, Heavy	17.82
31364 - Truckdriver, Tractor-Trailer	17.82
99000 - Miscellaneous Occupations	
99030 - Cashier	7.76
99050 - Desk Clerk	9.41
99095 - Embalmer	20.95
99251 - Laboratory Animal Caretaker I	9.70

99252 - Laboratory Animal Caretaker II	10.76
99310 - Mortician	20.63
99410 - Pest Controller	14.84
99510 - Photofinishing Worker	11.74
99710 - Recycling Laborer	10.74
99711 - Recycling Specialist	13.70
99730 - Refuse Collector	9.26
99810 - Sales Clerk	9.82
99820 - School Crossing Guard	8.48
99830 - Survey Party Chief	16.31
99831 - Surveying Aide	11.30
99832 - Surveying Technician	13.33
99840 - Vending Machine Attendant	9.87
99841 - Vending Machine Repairer	12.54
99842 - Vending Machine Repairer Helper	9.87

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: Life, accident, and health insurance plans, sick leave, pension plans, civic and personal leave, severance pay, and savings and thrift plans. Minimum employer contributions costing an average of \$3.35 per hour computed on the basis of all hours worked by service employees employed on the contract.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year, New Year's Day, Martin Luther King Jr's Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4174)

THE OCCUPATIONS WHICH HAVE NUMBERED FOOTNOTES IN PARENTHESES RECEIVE THE FOLLOWING:

1) COMPUTER EMPLOYEES: Under the SCA at section 8(b), this wage determination does not apply to any employee who individually qualifies as a bona fide executive, administrative, or professional employee as defined in 29 C.F.R. Part 541. Because most Computer System Analysts and Computer Programmers who are compensated at a rate not less than \$27.63 (or on a salary or fee basis at a rate not less than \$455 per week) an hour would likely qualify as exempt computer professionals, (29 C.F.R. 541.400) wage rates may not be listed on this wage determination for all occupations within those job families. In addition, because this wage determination may not list a wage rate for some or all occupations within those job families if the survey

data indicates that the prevailing wage rate for the occupation equals or exceeds \$27.63 per hour conformances may be necessary for certain nonexempt employees. For example, if an individual employee is nonexempt but nevertheless performs duties within the scope of one of the Computer Systems Analyst or Computer Programmer occupations for which this wage determination does not specify an SCA wage rate, then the wage rate for that employee must be conformed in accordance with the conformance procedures described in the conformance note included on this wage determination.

Additionally, because job titles vary widely and change quickly in the computer industry, job titles are not determinative of the application of the computer professional exemption. Therefore, the exemption applies only to computer employees who satisfy the compensation requirements and whose primary duty consists of:

- (1) The application of systems analysis techniques and procedures, including consulting with users, to determine hardware, software or system functional specifications;
- (2) The design, development, documentation, analysis, creation, testing or modification of computer systems or programs, including prototypes, based on and related to user or system design specifications;
- (3) The design, documentation, testing, creation or modification of computer programs related to machine operating systems; or
- (4) A combination of the aforementioned duties, the performance of which requires the same level of skills. (29 C.F.R. 541.400).

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3) AIR TRAFFIC CONTROLLERS AND WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordnance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordnance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordnance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the

employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordnance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordnance, explosives, and incendiary material differential pay.

**** UNIFORM ALLOWANCE ****

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$3.35 per week (or \$.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition, April 2006, unless otherwise indicated. Copies of the Directory are available on the Internet. A links to the Directory may be found on the WHD home page at <http://www.dol.gov/esa/whd/> or through the Wage Determinations On-Line (WDOL) Web site at <http://wdol.gov/>.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE (Standard Form 1444 (SF 1444))

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es)

WD 05-2516 (Rev.-11) was first posted on www.wdol.gov on 07/28/2009

REGISTER OF WAGE DETERMINATIONS UNDER
THE SERVICE CONTRACT ACT
By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON D.C. 20210

Shirley F. Ebbesen Division of
Director Wage Determinations

Wage Determination No.: 2005-2516
Revision No.: 11
Date Of Revision: 07/22/2009

State: Texas

Area: Texas Counties of Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Grimes, Harris, Houston, Jackson, Lavaca, Liberty, Madison, Matagorda, Montgomery, San Jacinto, Trinity, Walker, Waller, Washington, Wharton

****Fringe Benefits Required Follow the Occupational Listing****

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		14.89
01012 - Accounting Clerk II		16.71
01013 - Accounting Clerk III		18.78
01020 - Administrative Assistant		23.55
01040 - Court Reporter		21.79
01051 - Data Entry Operator I		12.09
01052 - Data Entry Operator II		14.32
01060 - Dispatcher, Motor Vehicle		15.96
01070 - Document Preparation Clerk		13.41
01090 - Duplicating Machine Operator		13.41
01111 - General Clerk I		10.80
01112 - General Clerk II		12.97
01113 - General Clerk III		14.88
01120 - Housing Referral Assistant		20.55
01141 - Messenger Courier		11.95
01191 - Order Clerk I		13.52
01192 - Order Clerk II		15.24
01261 - Personnel Assistant (Employment) I		15.13
01262 - Personnel Assistant (Employment) II		16.92
01263 - Personnel Assistant (Employment) III		18.86
01270 - Production Control Clerk		19.10
01280 - Receptionist		12.02
01290 - Rental Clerk		14.75
01300 - Scheduler, Maintenance		15.92
01311 - Secretary I		15.92
01312 - Secretary II		17.90
01313 - Secretary III		20.55
01320 - Service Order Dispatcher		15.16
01410 - Supply Technician		23.55
01420 - Survey Worker		16.59

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****Fringe Benefits Required Follow the Occupational Listing****

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		14.89
01012 - Accounting Clerk II		16.71
01013 - Accounting Clerk III		18.78
01020 - Administrative Assistant		23.55
01040 - Court Reporter		21.79
01051 - Data Entry Operator I		12.09
01052 - Data Entry Operator II		14.32
01060 - Dispatcher, Motor Vehicle		15.96
01070 - Document Preparation Clerk		13.41
01090 - Duplicating Machine Operator		13.41
01111 - General Clerk I		10.80
01112 - General Clerk II		12.97
01113 - General Clerk III		14.88
01120 - Housing Referral Assistant		20.55
01141 - Messenger Courier		11.95
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01192 - Order Clerk II		15.24
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01262 - Personnel Assistant (Employment) II		16.92
01263 - Personnel Assistant (Employment) III		18.86
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01280 - Receptionist		12.02
01290 - Rental Clerk		14.75
01300 - Scheduler, Maintenance		15.92
01311 - Secretary I		15.92
01312 - Secretary II		17.90
01313 - Secretary III		20.55
01320 - Service Order Dispatcher		15.16
01410 - Supply Technician		23.55
01420 - Survey Worker		16.59

01531 - Travel Clerk I	13.63
01532 - Travel Clerk II	14.69
01533 - Travel Clerk III	15.71
01611 - Word Processor I	13.50
01612 - Word Processor II	15.59
01613 - Word Processor III	17.44
05000 - Automotive Service Occupations	
05005 - Automobile Body Repairer, Fiberglass	24.80
05010 - Automotive Electrician	22.66
05040 - Automotive Glass Installer	21.68
05070 - Automotive Worker	20.91
05110 - Mobile Equipment Servicer	19.27
05130 - Motor Equipment Metal Mechanic	24.53
05160 - Motor Equipment Metal Worker	20.91
05190 - Motor Vehicle Mechanic	24.53
05220 - Motor Vehicle Mechanic Helper	18.48
05250 - Motor Vehicle Upholstery Worker	19.84
05280 - Motor Vehicle Wrecker	20.91
05310 - Painter, Automotive	22.66
05340 - Radiator Repair Specialist	22.88
05370 - Tire Repairer	14.40
05400 - Transmission Repair Specialist	25.17
07000 - Food Preparation And Service Occupations	
07010 - Baker	10.04
07041 - Cook I	9.52
07042 - Cook II	10.88
07070 - Dishwasher	8.11
07130 - Food Service Worker	9.12
07210 - Meat Cutter	12.53
07260 - Waiter/Waitress	7.97
09000 - Furniture Maintenance And Repair Occupations	
09010 - Electrostatic Spray Painter	16.65
09040 - Furniture Handler	11.74
09080 - Furniture Refinisher	16.09
09090 - Furniture Refinisher Helper	13.74
09110 - Furniture Repairer, Minor	15.29
09130 - Upholsterer	16.65
11000 - General Services And Support Occupations	
11030 - Cleaner, Vehicles	9.90
11060 - Elevator Operator	8.17
11090 - Gardener	14.52
11122 - Housekeeping Aide	8.17
11150 - Janitor	8.17
11210 - Laborer, Grounds Maintenance	10.93
11240 - Maid or Houseman	7.73
11260 - Pruner	8.99
11270 - Tractor Operator	12.82
11330 - Trail Maintenance Worker	10.93
11360 - Window Cleaner	8.92
12000 - Health Occupations	
12010 - Ambulance Driver	14.48
12011 - Breath Alcohol Technician	15.64
12012 - Certified Occupational Therapist Assistant	21.54

14041 - Computer Operator I	16.41
14042 - Computer Operator II	18.35
14043 - Computer Operator III	20.46
14044 - Computer Operator IV	22.74
14045 - Computer Operator V	25.18
14071 - Computer Programmer I (see 1)	25.36
14072 - Computer Programmer II (see 1)	
14073 - Computer Programmer III (see 1)	
14074 - Computer Programmer IV (see 1)	
14101 - Computer Systems Analyst I (see 1)	
14102 - Computer Systems Analyst II (see 1)	
14103 - Computer Systems Analyst III (see 1)	
14150 - Peripheral Equipment Operator	16.41
14160 - Personal Computer Support Technician	22.74
15000 - Instructional Occupations	
15010 - Aircrew Training Devices Instructor (Non-Rated)	32.64
15020 - Aircrew Training Devices Instructor (Rated)	39.49
15030 - Air Crew Training Devices Instructor (Pilot)	47.34
15050 - Computer Based Training Specialist / Instructor	31.10
15060 - Educational Technologist	29.02
15070 - Flight Instructor (Pilot)	47.34
15080 - Graphic Artist	25.42
15090 - Technical Instructor	22.43
15095 - Technical Instructor/Course Developer	27.43
15110 - Test Proctor	18.43
15120 - Tutor	18.43
16000 - Laundry, Dry-Cleaning, Pressing And Related Occupations	
16010 - Assembler	9.40
16030 - Counter Attendant	9.40
16040 - Dry Cleaner	12.06
16070 - Finisher, Flatwork, Machine	9.40
16090 - Presser, Hand	9.40
16110 - Presser, Machine, Drycleaning	9.40
16130 - Presser, Machine, Shirts	9.40
16160 - Presser, Machine, Wearing Apparel, Laundry	9.40
16190 - Sewing Machine Operator	12.79
16220 - Tailor	13.75
16250 - Washer, Machine	10.32
19000 - Machine Tool Operation And Repair Occupations	
19010 - Machine-Tool Operator (Tool Room)	18.32
19040 - Tool And Die Maker	21.12
21000 - Materials Handling And Packing Occupations	
21020 - Forklift Operator	12.84
21030 - Material Coordinator	18.58
21040 - Material Expediter	18.58
21050 - Material Handling Laborer	12.26
21071 - Order Filler	11.47
21080 - Production Line Worker (Food Processing)	12.84
21110 - Shipping Packer	14.60
21130 - Shipping/Receiving Clerk	14.60
21140 - Store Worker I	10.67
21150 - Stock Clerk	15.13
21210 - Tools And Parts Attendant	13.58

14041 - Computer Operator I	16.41
14042 - Computer Operator II	18.35
14043 - Computer Operator III	20.46
14044 - Computer Operator IV	22.74
14045 - Computer Operator V	25.18
14071 - Computer Programmer I	(see 1) 25.36
14072 - Computer Programmer II	(see 1)
14073 - Computer Programmer III	(see 1)
14074 - Computer Programmer IV	(see 1)
14101 - Computer Systems Analyst I	(see 1)
14102 - Computer Systems Analyst II	(see 1)
14103 - Computer Systems Analyst III	(see 1)
14150 - Peripheral Equipment Operator	16.41
14160 - Personal Computer Support Technician	22.74
15000 - Instructional Occupations	
15010 - Aircrew Training Devices Instructor (Non-Rated)	32.64
15020 - Aircrew Training Devices Instructor (Rated)	39.49
15030 - Air Crew Training Devices Instructor (Pilot)	47.34
15050 - Computer Based Training Specialist / Instructor	31.10
15060 - Educational Technologist	29.02
15070 - Flight Instructor (Pilot)	47.34
15080 - Graphic Artist	25.42
15090 - Technical Instructor	22.43
15095 - Technical Instructor/Course Developer	27.43
15110 - Test Proctor	18.43
15120 - Tutor	18.43
16000 - Laundry, Dry-Cleaning, Pressing And Related Occupations	
16010 - Assembler	9.40
16030 - Counter Attendant	9.40
16040 - Dry Cleaner	12.06
16070 - Finisher, Flatwork, Machine	9.40
16090 - Presser, Hand	9.40
16110 - Presser, Machine, Drycleaning	9.40
16130 - Presser, Machine, Shirts	9.40
16160 - Presser, Machine, Wearing Apparel, Laundry	9.40
16190 - Sewing Machine Operator	12.79
16220 - Tailor	13.75
16250 - Washer, Machine	10.32
19000 - Machine Tool Operation And Repair Occupations	
19010 - Machine-Tool Operator (Tool Room)	18.32
19040 - Tool And Die Maker	21.12
21000 - Materials Handling And Packing Occupations	
21020 - Forklift Operator	12.84
21030 - Material Coordinator	18.58
21040 - Material Expediter	18.58
21050 - Material Handling Laborer	12.26
21071 - Order Filler	11.47
21080 - Production Line Worker (Food Processing)	12.84
21110 - Shipping Packer	14.60
21130 - Shipping/Receiving Clerk	14.60
21140 - Store Worker I	10.67
21150 - Stock Clerk	15.13
21210 - Tools And Parts Attendant	13.58

21410 - Warehouse Specialist	12.84
23000 - Mechanics And Maintenance And Repair Occupations	
23010 - Aerospace Structural Welder	28.07
23021 - Aircraft Mechanic I	26.73
23022 - Aircraft Mechanic II	28.07
23023 - Aircraft Mechanic III	29.47
23040 - Aircraft Mechanic Helper	20.93
23050 - Aircraft, Painter	24.39
23060 - Aircraft Servicer	23.28
23080 - Aircraft Worker	24.53
23110 - Appliance Mechanic	17.26
23120 - Bicycle Repairer	13.91
23125 - Cable Splicer	25.34
23130 - Carpenter, Maintenance	18.58
23140 - Carpet Layer	17.83
23160 - Electrician, Maintenance	26.51
23181 - Electronics Technician Maintenance I	21.28
23182 - Electronics Technician Maintenance II	23.89
23183 - Electronics Technician Maintenance III	25.10
23260 - Fabric Worker	15.97
23290 - Fire Alarm System Mechanic	19.95
23310 - Fire Extinguisher Repairer	15.46
23311 - Fuel Distribution System Mechanic	19.28
23312 - Fuel Distribution System Operator	16.33
23370 - General Maintenance Worker	18.08
23380 - Ground Support Equipment Mechanic	26.73
23381 - Ground Support Equipment Servicer	23.28
23382 - Ground Support Equipment Worker	24.53
23391 - Gunsmith I	15.46
23392 - Gunsmith II	18.08
23393 - Gunsmith III	20.27
23410 - Heating, Ventilation And Air-Conditioning Mechanic	21.04
23411 - Heating, Ventilation And Air Contditioning Mechanic (Research Facility)	21.95
23430 - Heavy Equipment Mechanic	19.45
23440 - Heavy Equipment Operator	19.26
23460 - Instrument Mechanic	23.52
23465 - Laboratory/Shelter Mechanic	19.29
23470 - Laborer	10.97
23510 - Locksmith	18.99
23530 - Machinery Maintenance Mechanic	22.76
23550 - Machinist, Maintenance	20.16
23580 - Maintenance Trades Helper	13.58
23591 - Metrology Technician I	23.52
23592 - Metrology Technician II	24.54
23593 - Metrology Technician III	25.58
23640 - Millwright	21.53
23710 - Office Appliance Repairer	18.99
23760 - Painter, Maintenance	18.99
23790 - Pipefitter, Maintenance	19.44
23810 - Plumber, Maintenance	18.98
23820 - Pneudraulic Systems Mechanic	20.27

30000 - Technical Occupations	
30010 - Air Traffic Control Specialist, Center (HFO) (see 2)	39.61
30011 - Air Traffic Control Specialist, Station (HFO) (see 2)	27.31
30012 - Air Traffic Control Specialist, Terminal (HFO) (see 2)	30.07
30021 - Archeological Technician I	21.10
30022 - Archeological Technician II	25.47
30023 - Archeological Technician III	30.62
30030 - Cartographic Technician	30.62
30040 - Civil Engineering Technician	30.03
30061 - Drafter/CAD Operator I	21.10
30062 - Drafter/CAD Operator II	24.71
30063 - Drafter/CAD Operator III	27.56
30064 - Drafter/CAD Operator IV	32.42
30081 - Engineering Technician I	18.25
30082 - Engineering Technician II	22.45
30083 - Engineering Technician III	25.11
30084 - Engineering Technician IV	31.09
30085 - Engineering Technician V	38.65
30086 - Engineering Technician VI	46.04
30090 - Environmental Technician	29.96
30210 - Laboratory Technician	23.56
30240 - Mathematical Technician	30.62
30361 - Paralegal/Legal Assistant I	20.47
30362 - Paralegal/Legal Assistant II	25.36
30363 - Paralegal/Legal Assistant III	31.02
30364 - Paralegal/Legal Assistant IV	37.52
30390 - Photo-Optics Technician	30.62
30461 - Technical Writer I	21.46
30462 - Technical Writer II	26.25
30463 - Technical Writer III	31.75
30491 - Unexploded Ordnance (UXO) Technician I	25.17
30492 - Unexploded Ordnance (UXO) Technician II	30.45
30493 - Unexploded Ordnance (UXO) Technician III	36.50
30494 - Unexploded (UXO) Safety Escort	25.17
30495 - Unexploded (UXO) Sweep Personnel	25.17
30620 - Weather Observer, Combined Upper Air Or (see 2)	26.35
Surface Programs	
30621 - Weather Observer, Senior (see 2)	30.48
31000 - Transportation/Mobile Equipment Operation Occupations	
31020 - Bus Aide	11.25
31030 - Bus Driver	16.38
31043 - Driver Courier	12.75
31260 - Parking and Lot Attendant	8.34
31290 - Shuttle Bus Driver	13.89
31310 - Taxi Driver	11.54
31361 - Truckdriver, Light	13.89
31362 - Truckdriver, Medium	17.25
31363 - Truckdriver, Heavy	19.46
31364 - Truckdriver, Tractor-Trailer	19.46
99000 - Miscellaneous Occupations	
99030 - Cashier	9.10
99050 - Desk Clerk	10.65
99095 - Embalmer	21.55

30000 - Technical Occupations	
30010 - Air Traffic Control Specialist, Center (HFO) (see 2)	39.61
30011 - Air Traffic Control Specialist, Station (HFO) (see 2)	27.31
30012 - Air Traffic Control Specialist, Terminal (HFO) (see 2)	30.07
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31260 - Parking and Lot Attendant	8.34
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31310 - Taxi Driver	11.54
31361 - Truckdriver, Light	13.89
31362 - Truckdriver, Medium	17.25
31363 - Truckdriver, Heavy	19.46
31364 - Truckdriver, Tractor-Trailer	19.46
99000 - Miscellaneous Occupations	
99030 - Cashier	9.10
99050 - Desk Clerk	10.65
99095 - Embalmer	21.55

99251 - Laboratory Animal Caretaker I	9.74
99252 - Laboratory Animal Caretaker II	10.71
99310 - Mortician	24.04
99410 - Pest Controller	14.36
99510 - Photofinishing Worker	11.47
99710 - Recycling Laborer	14.96
99711 - Recycling Specialist	18.24
99730 - Refuse Collector	13.34
99810 - Sales Clerk	11.51
99820 - School Crossing Guard	9.96
99830 - Survey Party Chief	20.96
99831 - Surveying Aide	14.35
99832 - Surveying Technician	18.13
99840 - Vending Machine Attendant	12.00
99841 - Vending Machine Repairer	14.41
99842 - Vending Machine Repairer Helper	12.31

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: Life, accident, and health insurance plans, sick leave, pension plans, civic and personal leave, severance pay, and savings and thrift plans. Minimum employer contributions costing an average of \$3.35 per hour computed on the basis of all hours worked by service employees employed on the contract.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year, New Year's Day, Martin Luther King Jr's Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4174)

THE OCCUPATIONS WHICH HAVE NUMBERED FOOTNOTES IN PARENTHESES RECEIVE THE FOLLOWING:

1) COMPUTER EMPLOYEES: Under the SCA at section 8(b), this wage determination does not apply to any employee who individually qualifies as a bona fide executive, administrative, or professional employee as defined in 29 C.F.R. Part 541. Because most Computer System Analysts and Computer Programmers who are compensated at a rate not less than \$27.63 (or on a salary or fee basis at a rate not less than \$455 per week) an hour would likely qualify as exempt computer professionals, (29 C.F.R. 541.400) wage rates may not be listed on this wage determination for all occupations within those job families. In addition, because this wage determination may not

are only applicable to work that has been specifically designated by the agency for ordnance, explosives, and incendiary material differential pay.

**** UNIFORM ALLOWANCE ****

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$3.35 per week (or \$.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition, April 2006, unless otherwise indicated. Copies of the Directory are available on the Internet. A link to the Directory may be found on the WHD home page at <http://www.dol.gov/esa/whd/> or through the Wage Determinations On-Line (WDOL) Web site at <http://wdol.gov/>.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE (Standard Form 1444 (SF 1444))

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. (See Section 4.6 (C)(vi)) When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be

are only applicable to work that has been specifically designated by the agency for ordnance, explosives, and incendiary material differential pay.

**** UNIFORM ALLOWANCE ****

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$3.35 per week (or \$.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition, April 2006, unless otherwise indicated. Copies of the Directory are available on the Internet. A link to the Directory may be found on the WHD home page at <http://www.dol.gov/esa/whd/> or through the Wage Determinations On-Line (WDOL) Web site at <http://wdol.gov/>.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE (Standard Form 1444 (SF 1444))

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. (See Section 4.6 (C)(vi)) When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be

Contract NNJ06JE86C

Section J

RFP NNJ05106317R

Modification 112

J.7A GOVERNMENT FURNISHED EQUIPMENT

J.7B INSTALLATION PROVIDED PROPERTY

J.7C LIST OF NASA PROVIDED ANALYSIS TOOLS

ATTACHMENT J.7A LIST OF GOVERNMENT FURNISHED PROPERTY

6. Attachment J.7A List of Government Furnished Property is amended to add the following property:

Safety and Mission Assurance (S&MA) Support Services Contract						
Contract No. NNJ06JE86C						
Number	ECN	Item Name	Manufacturer	Model No.	Serial No.	Room
G210375	1913977	PRINTER, ADP	HEWLETT-PACKARD	C3917A	JPKH004434	129
G210376	2081285	SCANNER, ADP	FUJITSU AMERICA INC	M4099D	501336	140B
G210377	1601884	CAMERA SYSTEM, DIGITAL	SONY CORP	MVC-FD88	134498	317D
G210378	1849611	DISPLAY UNIT	MAGITRONIC	C-SV2000PS	T1580638D0017	431D
G210379	1996144	SCANNER, IMAGE	FUJITSU AMERICA INC	M4099D	612	158
G210380	1617044	CAMERA SYSTEM, DIGITAL	NIKON CORP	COOLPIX885	3204477	421
G210381	1919998	PRINTER, ADP	HEWLETT-PACKARD	C4121A	USEF167471	146
G210382	1855762	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03473	245
G210383	1914925	SCANNER, ADP	FUJITSU LTD	M3099GX	6	140B
G210384	1929543	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEK090195	325C
G210385	1618057	SWITCH, 50 VPN DEVICE	NETSCREEN TECHNOLOGIES	NS-050-001	1.9112E+14	431E
G310386	-	PRINTER, OFFICEJET PRO	HEWLETT-PACKARD	1175Cxi	SGB83AGKK5	
G210387	-	ZIP DRIVE	IOMEGA	Zip 100	PKAV48H5TB	
G210388	2143453	COMPUTER, LAPTOP	DELL COMPUTER	PP05L	43307013061	
G210389	Decal	ISS M MODEL WITH CASE	JOHNSON ENGINEERING	N/A	N/A	
G210390	-	TELEPHONE HEADSET	PLANTRONICS	M12	N/A	407E
G210391	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	345F
G210392	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	351F
G210393	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	149D
G210394	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	251A
G210395	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	349E
G210396	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	305D
G210397	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	357C
G210398	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	149H
G210399	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	349R
G210400	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	219B
G210401	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	352A
G210402	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	349D
						149E

Number	ECN	Item Name	Manufacturer	Model No.	Serial No.	Cost	Building	Room
G210403	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	347D
G210404	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	357B
G210405	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	351C
G210406	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	151C
G210407	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	151A
G210408	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	345E
G210409	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	151H
G210410	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	349C
G210411	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	351A
G210412	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	345C
G210413	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	337B
G210414	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	335B
G210415	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	309A
G210416	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	341B
G210417	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	343D
G210418	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	343F
G210419	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	222B
G210420	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	221D
G210421	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	114B
G210422	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	335A
G210423	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	341C
G210424	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	222C
G210425	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	345B
G210426	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	253E
G210427	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	253B
G210428	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B
G210429	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B
G210430	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B
G210431	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B

ATTACHMENT J.7B LIST OF INSTALLATION PROVIDED PROPERTY

ECN	ITEM NAME	MANUFACTURER	MODEL	SERIAL_NUM	BLDG	ROOM	COST
1354789	DISPLAY UNIT	VIEWSONICS INC	2082	5442510938	JS-17	2063	\$ 1,430
1449770	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	48432	2Q8J25020	JS-45	528	\$ 4,300
1455300	COMPUTER, MICRO	ADOSEA	ADXS20	AD1054	JS-36	1003A	\$ 1,530
1455307	TAPE DRIVE UNIT	EXABYTE CORP	EXB8500ST	1609770	JS-15	1002B	\$ 8,248
1553537	STORAGE UNIT, ADP	COMPAQ COMPUTER CORP	SERIES3092	D625HNM10763	JS-46	300	\$ 5,134
1553539	SERVER, ADP	COMPAQ COMPUTER CORP	PROLIANT4500	6539HNV50053	JS-46	300	\$ 15,371
1553540	STORAGE UNIT, ADP	COMPAQ COMPUTER CORP	SERIES3092	D625HNM10749	JS-46	300	\$ 5,134
1601884	CAMERA SYSTEM, DIGITAL	SONY CORP	MVC-FD88	134498	JS-45	616	\$ 700
1846724	DISPLAY UNIT	PANASONIC	EA21	FA6630063	JS-45	454	\$ 1,421
1848580	DISPLAY UNIT	VIEWSONICS INC	1782DC	2G70200127	JS-46	300	\$ 531
1849611	DISPLAY UNIT	MAGITRONIC	C-SV2000PS	T1580638D0017	JS-17	2070	\$ 1,124
1855754	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04063	JS-45	626	\$ 1,400
1913977	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	JPKH0004434	JS-45	211AB	\$ 1,454
1913981	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	USLC002488	JS-15	2000B	\$ 1,454
1913984	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	JPKH0004426	JS-17	204	\$ 1,454
1914118	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000	D735HWA10427	JS-46	300	\$ 6,648
1929618	COMPUTER, LAPTOP	TOSHIBA HOSHASEN CO LTD	PAS401U	29451619A	JS-45	528	\$ 1,299
1984694	DISPLAY UNIT	COMPAQ COMPUTER CORP	630	851GC25KC573	JS-45	528	\$ 1,107
1984729	COMPUTER, MICRO PROCESSOR	COMPAQ COMPUTER CORP	SP700	D942CMW8K032	JS-45	548	\$ 3,964
1986152	CENTRAL, ADP	COMPAQ COMPUTER CORP	PROLIANT 3000	D029DDL2K049	JS-46	300	\$ 15,014

1986210	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	PROLIANT3000	D029DDL2K053	JS-46	300	\$ 12,160
1986475	SERVER, ADP	COMPAQ COMPUTER CORP	PROLIANT3000A016615	D918CMJ10369	JS-46	300	\$ 11,220
1987351	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3A2	JS-15	1002B	\$ 1,113
1987356	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3AY	JS-15	1001	\$ 1,113
1987357	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3DE	JS-32	143	\$ 1,113
1987361	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3C2	JS-15	1001B	\$ 1,113
1987362	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3CA	JS-15	1001A	\$ 1,113
1987363	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3AX	JS-45	240	\$ 1,113
1987365	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3DA	JS-15	1002B	\$ 1,113
1987368	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3CE	JS-15	1002B	\$ 1,113
1987927	CONTROLLER, INTERFACE	RENISHAW INC ARTESIAN	1S1	S96331	JS-10	116A	\$ 13,998
1987928	POWER SUPPLY	INDUSTRIES INC	CL40-7610	ZATN0181	JS-10	116A	\$ 13,997
1991051	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	161156-001	D046FPR1K042	JS-46	300	\$ 12,956
1991305	COMPUTER, MICRO	COMPAQ COMPUTER CORP	PROLIANT ML350	D117FSC1K320	JS-15	1001	\$ 4,002
1991327	COMPUTER, MICRO	COMPAQ COMPUTER CORP	PROLIANT-ML530	D113FPR1K018	JS-46	300	\$ 2,999
2080086	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPL	ZFC01	JS-45	548	\$ 2,570
2080087	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPL	ZFCOR	JS-45	548	\$ 2,570
2081285	SCANNER, ADP	FUJITSU AMERICA INC	M4099D	501336	JS-45	422C	\$ 14,300
2084436	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	ML370PROLIANT	D234KF51D078	JS-46	300	\$ 3,884
2084437	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	ML370PROLIANT	D234KF51D091	JS-46	300	\$ 5,589

2143453	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PP05L	43307013061	JS-45	233	\$ 1,949
2152028	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-225	116	\$ 1,563
2152029	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-225	116	\$ 1,563
2152030	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-45	528	\$ 1,563
2152031	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-45	528	\$ 1,563
2152032	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-45	458	\$ 1,563
2152033	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-33	113	\$ 1,563
2521659	SERVER, ADP	HEWLETT-PACKARD CO	PROLIANT ML350	EA5KKZRZ3G	JS-45	458	\$ 5,122
1008417	PRINTER, ADP	HEWLETT-PACKARD CO	LJ III	3038JT1482	JS-HB- 17	205	\$ 1,790
1354416	PRINTER, ADP	HEWLETT-PACKARD CO	C2009A	USFB378280	JS-HB- 17	D210	\$ 4,046
1744326	TAPE DRIVE UNIT	QUANTUM CORP	TH3BA-YF	CX70702218	JS-HB- 17	D210	\$ 2,525
1854517	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000	D735HWA10120	JS-HB- 17	D210	\$ 6,648
1913982	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	JPKH004132	JS-HB- 17	2D36	\$ 1,454
1914026	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000	3734HWA16029	JS- PALMD	150	\$ 6,648
1919138	PRINTER, ADP	XEROX CORP F- XEROX DATA SYS	DOCPRINT4517	M3F-021044	JS-HB- 17	2C34	\$ 1,303
1919139	PRINTER, ADP	XEROX CORP F- XEROX DATA SYS	DOCPRINT4517	M3F-015339	JS-HB- 14	1D85	\$ 1,303
1987364	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3B7	JS- PALMD	150	\$ 1,113
1987410	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPX	JW8P601	JS-HB- 17	2D34	\$ 2,638
1987411	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPX	5X8P601	JS- PALMD	150	\$ 2,638

2078685	PRINTER, ADP	HEWLETT-PACKARD CO	C4254A	USQB065791	JS- PALMD	150	\$ 1,683
2080089	SERVER, ADP	COMPAQ COMPUTER CORP	PROLIANT ML370	D021DKH1K045	JS-HB- 17	2D35	\$ 5,355
2082026	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	146P031	JS- PLMDL	150	\$ 1,416
2082027	PRINTER, ADP	HEWLETT-PACKARD CO	LASERJET 2300N	CNBDD11821	JS- PLMDL	150	\$ 976
2086581	PROJECTOR, POWER LITE	EPSON AMERICA INC	730C	EE20380083C	JS-HB- 17	2C34	\$ 2,428
2086582	SEVER, ADP	DELL COMPUTER CORP F-PC'S LTD	2600	5HLFC31	JS-HB- 17	2D34	\$ 4,982
2086583	COMPUTER, NOTEBOOK	DELL COMPUTER CORP F-PC'S LTD	C840	4BJHC31	JS-HB- 17	2D34	\$ 2,500
2086584	COMPUTER, NOTEBOOK	DELL COMPUTER CORP F-PC'S LTD	C840	2BJHC31	JS-HB- 17	2D34	\$ 2,500
2086700	PRINTER, ADP	HEWLETT-PACKARD CO	C9661A	JPGMD47889	JS-HB- 17	2D34	\$ 2,464
2139240	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	CGWKV11	JS-HB- 14	1D93	\$ 1,702
2139241	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	4JWKV11	JS-HB- 14	1D82	\$ 1,702
2139242	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	6JWKV11	JS-HB- 14	1D90	\$ 1,702
2139243	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	FGWKV11	JS- PALMD	150	\$ 1,702
2139244	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	BHWKV11	JS-HB- 14	1D85	\$ 1,702
2139245	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	FHWKV11	JS-HB- 14	1D113	\$ 1,702
2139246	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	SHWKV11	JS-HB- 14	1D92	\$ 1,702
2139247	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	HGWKV11	JS-HB- 17	2D30B	\$ 1,702

2139248	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	JGWQKV11	JS-HB- 17	2D34	\$ 1,702
2139249	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	7HWKV11	JS- PALMD	150	\$ 1,702
2139250	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	HHWKV11	JS- PALMD	150	\$ 1,702
2139251	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	8GWKV11	JS-HB- 14	1D80	\$ 1,702
156744	RECORDER, VIDEO CASSETTE	PANASONIC	AG6100	E6TA00356	JS-45	248A	\$ 1,098
304473	TELEVISION RECEIVER	SONY CORP	CVM1271	2006717	JS-17	2062A	\$ 562
1033304	PRINTER, COLOR VIDEO	SONY CORP	UP5000	59699	JS-9B	2150A	\$ 5,718
1033312	HANDLER, DIGITAL INFO W/KB	SONY CORP	DIH2000	10162	JS-9B	2150A	\$ 2,416
1033317	MONITOR, TELEVISION	SONY CORP	PVM1342Q	2012239	JS-9B	2150A	\$ 883
1033343	RECORDER/PLAYER STILL VIDEO	SONY CORP	MVR5600	11305	JS-9B	2150A	\$ 3,156
1033860	SCANNER, COLOR VIDEO	SONY CORP	UY-T55	10573	JS-9B	2150A	\$ 5,100
1456314	READER, CD ROM	SUN MICROSYSTEMS INC	411	137G4348	JS-15	1000	\$ 766
1549207	COMPUTER, MICRO	RAYNOR COMPUTER SERVICE INC	B260	304828	JS-9B	2150A	\$ 1,838
1554132	RECORDER, VIDEO CASSETTE	HITACHI DENSHI LTD	VT3800A	80908532	JS-9B	2150A	\$ 950
1554146	DISPLAY UNIT	NEC TECHNOLOGIES INC FRMLY NEC	JC1404HMA	93M10114S	JS-9B	2150A	\$ 908
1554147	COMPUTER, MICRO	COMPAQ COMPUTER CORP	2571	4808AQ280350	JS-9B	2150A	\$ 6,383
1554155	PROJECTOR	ELECTROHOME LTD	ECP3000	105370008 A	JS-9B	2150A	\$ 10,460
1617044	CAMERA SYSTEM, DIGITAL	NIKON CORP	COOLPIX885	3204477	JS-17	236	\$ 530
1653512	CAMERA SYSTEM,	NIKON CORP	COOLPIX885	3204478	JS-45	528	\$ 530

	DIGITAL	HEWLETT-PACKARD CO	C3917A					
1913969	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A		JPKH004145	JS-9B	2150	\$ 1,454
1914117	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000		D735HWA30075	JS-45	240	\$ 11,823
1914638	DISPLAY UNIT	VIEWSONIC CORP/ DIV KEYPOINT	VCDTS21360		1J73100191	JS-45	619	\$ 979
1914926	DISPLAY UNIT	COMPAQ COMPUTER CORP	620		643CB00HA620	JS-45	240	\$ 750
1917663	DISK DRIVE UNIT	IOMEGA	V1000S		W1MU3807AW	JS-45	528	\$ 800
1919497	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A		USNC084476	JS-45	548	\$ 1,498
1996144	SCANNER, IMAGE	FUJITSU AMERICA INC	M4099D			JS-45	619	\$ 5,314
1915270	COMPUTER, LAPTOP	IMPERIAL COMPUTER CORP 318 N B	6200AT		N6SD817401149	JS-45	528	\$ 1,890
1917664	DISK DRIVE UNIT	IOMEGA	V1000S		W1MU380TA4	JS-45	528	\$ 800
1926920	BONDER, WEDGE- WEDGE	WEST-BOND INC	7600A66A			JS-15	1001	\$ 13,215
1996337	INSPECTION PENETRANT, LIQUID	GOULD BASS	UPE101			JS-10	110	\$ 18,877
1996338	FILTRATION SYSTEM, NANO	INFO TECH	SPLITTERXD		AA11A	JS-10	110	\$ 15,945
2080522	COMPUTER, MICRO	COMPAQ COMPUTER CORP	ML370		3882Q022	JS-46	300	\$ 4,912
17645	LOAD CELL	SINTECH DIV OF MTS INC	3397-136			JS-15	1002	\$ 10,000
304549	MONITOR, TELEVISION	SONY CORP	CVM1750			JS-15	3001A	\$ 826
1336357	COMPUTER, MICRO MONITOR,	SUN MICROSYSTEMS INC	144		328F0610	JS-420	4013	\$ 0,547
1446917	TELEVISION	SONY CORP	PVM1354Q			JS-15	3001A	\$ 1,075
1446919	CAMERA- RECORDING, VIDEO	SONY CORP	DXC170A			JS-15	3002	\$ 1,190
1446921	ANALYZER, DIELECTRIC	VITREK CORP	944I			JS-15	1001A	\$ 5,784

1446925	TEST STATION, AUTOMATED ELECT CAMERA, DIGITAL VIDEO	INTEGRATED SYSTEMS INC	NONE		330	JS-420	4013	\$ 215,750
1447124	CAMERA, DIGITAL VIDEO	SONY CORP	DKC5000		10507	JS-15	1002B	\$ 9,220
1447125	CAMERA, DIGITAL VIDEO	SONY CORP	DKC5000		10514	JS-15	1002B	\$ 9,220
1447126	MONITOR	SONY CORP	PVM1953MD		2011487	JS-15	1002B	\$ 2,011
1447127	CAMERA, DIGITAL MICROSCOPE	POLAROID CORP	DMC1	08701005AJ		JS-15	1002B	\$ 5,275
1447129	PRINTER, VIDEO	SONY CORP	UP5500		11069	JS-15	1002B	\$ 5,450
1455808	SPLICER, MICRO W/CASE	PREFORMED LINE PRODUCTS CO	MS2	AA1751		JS-15	3001A	\$ 6,490
1455815	MONITOR, TELEVISION	SONY CORP	KV2511CR		2000574	JS-15	3002	\$ 1,121
1455817	CAMERA-RECORDING, VIDEO	SONY CORP	DXC107A		101134	JS-15	3001A	\$ 1,360
1455819	DISPLAY UNIT	SONY CORP	PVM1343MD		2021238	JS-15	3002	\$ 1,260
1455850	SPLICER, MICRO W/CASE	PREFORMED LINE PRODUCTS CO	MS2	AA1748		JS-15	3001A	\$ 6,490
1456392	COMPUTER, MICRO	M & A TECHNOLOGY INC	MANDA CXP150+		2668	JS-15	1001	\$ 1,314
1457027	MICROMANIPULATOR	CO INC THE	6000		910178	JS-15	1001	\$ 27,227
1457029	CONTROL UNIT, TEMPERATURE	MICROMANIPULATOR CO INC THE	HCSM		907177	JS-15	1001B	\$ 8,000
1457037	MICROTESTER	DAGE BACKPLANE SYSTEMS LTD	SERIES22A		91288	JS-15	1001	\$ 14,808
1457041	SIMULATOR, ELECTROSTATIC	ELECTRO-TECH SYS INC	910		180	JS-15	1001A	\$ 5,494
1457048	OSCILLOSCOPE	TEKTRONIX INC	2467B	B051280		JS-15	1001	\$ 12,804
1457051	CYCLING SYSTEM, THERMAL	F T S CORP	TJ80B2	TJ-8-91-52		JS-420	4013	\$ 17,875
1457052	TESTER, COMPONENT	ANALOG DEVICES INC	LST2020	122-1108		JS-15	1001A	\$ 34,100
1457053	DISPLAY UNIT	QUME CORP	QVT101+	AA010752		JS-15	1001A	\$ 792
1457054	OSCILLOSCOPE	HEWLETT-PACKARD CO	54510A	3022A01894		JS-15	1001	\$ 9,822
1457056	TEST HEAD, MIX	ANALOG DEVICES	LTS0680		1067670	JS-15	1001	\$ 14,000

	SIGNAL	INC						
1457058	TEST HEAD, DIGITAL	ANALOG DEVICES INC	LTS0655		9150450	JS-15	1001	\$ 10,995
1457059	COMPONENT TEST SYSTEM	ANALOG DEVICES INC	LTS2410		2190017	JS-15	1001	\$ 5,500
1457060	TESTER, COMPONENT	ANALOG DEVICES INC	LTS2600		256098	JS-15	1001A	\$ 8,580
1457061	TESTER, COMPONENT	ANALOG DEVICES INC	LTS2510		1158161	JS-15	1001	\$ 5,500
1457066	CURVE TRACER	SONY CORP HEWLETT-PACKARD CO	370A	J302151		JS-15	1001A	\$ 20,935
1457071	MULTIMETER	HEWLETT-PACKARD CO	3458A	2823A09365		JS-15	1001	\$ 6,914
1457073	METER, PRECISION LCR	HEWLETT-PACKARD CO	4284A	2940J02897		JS-15	1001A	\$ 10,728
1457084	SPECTROMETER, ATOMIC	APPLIED RESEARCH LABORATORIES CLINTON	3460		5359	JS-15	1001A	\$ 74,062
1457085	TESTER, WIRE	INSTRUMENT CO	30-Jun	NONE		JS-15	1001A	\$ 14,600
1457089	CABINET, X-RAY SYSTEM	HEWLETT-PACKARD CO	438558	2317A10279		JS-15	1001A	\$ 17,717
1457091	LEAK DETECTOR, MASS SPECTROMTR	VARIAN VACUUM PRODUCTS	947	DJAE 1001		JS-15	1001A	\$ 30,920
1457095	PINDTESTER CIRCULATOR	SPECTRAL DYNAMICS	4501A	9131B820 156		JS-15	1001A	\$ 10,000
1457107	REFRIGERATED BATH	NESLAB INSTRUMENTS INC	RTE100	91HML92780-10		JS-15	1001B	\$ 8,475
1457108	ION ETCHER, MICRO REACTIVE	TECHNICS INC	85RIE	NONE		JS-15	1001B	\$ 22,000
1457121	SAW, DIAMOND PRECISION	BUEHLER LTD AEHR TEST SYSTEMS	ISOMET PLUS	443-ISP-0666		JS-15	1001B	\$ 6,775
1457150	OVEN	GENERAL SIGNAL CORP LINDBERG	MAX64000	7676		JS-333	20012	\$ 76,265
1457151	SHOCK TESTER, THERMAL	DESPATCH INDUSTRIES INC	WSP109C-MP3	WSP-247		JS-15	HIBAY	\$ 26,527
1457152	CHAMBER, TEMP/HUMIDITY		16619A	148493		JS-15	HIBAY	\$ 18,269
1457167	EDDY CURRENT INSTRUMENT	UNI WEST	51294		39	JS-15	HIBAY	\$ 9,750

1457177	TESTER HARDNESS	KRAUTKRAMER BRANSON INC	MIC2	31990-1139	JS-15	HIBAY	\$ 7,698
1457180	FUME HOOD	KEWAUNEE SCIENTIFIC EQUIPMENT	501152NWE	R917275	JS-15	1001B	\$ 6,730
1457181	FUME HOOD	KEWAUNEE SCIENTIFIC EQUIPMENT	501152NWE	R918085	JS-15	1001B	\$ 6,730
1457190	DISPLAY UNIT	TOSHIBA AMERICAN INFO SYSTEMS	TVM901	70559	JS-15	1002	\$ 4,805
1457203	COMPARATOR, OPTICAL	STARRETT L S CO WEBBER GAGE DV NEW AGE INDUSTRIAL CORP INC	HB400	3549	JS-15	1001A	\$ 9,939
1457206	SCALE TESTER	OKIDATA CORP	NI400C	91846	JS-15	1002	\$ 11,875
1457218	PRINTER, ADP	SONY CORP	GE5253A	012C0447611	JS-15	1001A	\$ 1,200
1457231	DISPLAY UNIT	TEKTRONIX INC	GVM2020	2004433	JS-15	1002B	\$ 1,870
1457234	PRINTER, ADP	LEICA	4684	JPR578	JS-15	1002B	\$ 8,576
1457240	MICROSCOPE MEASURING CAMERA-	MICROSYSTEMS INC	301-371.011	561001/141264	JS-15	1002B	\$ 29,090
1457241	RECORDING, VIDEO TESTER,	SONY CORP	DXC151A	101279	JS-15	1001	\$ 1,310
1457249	MICROHARDNESS	LECO CORP F- LABORATORY EQUIP	M400G1	200681	JS-15	1002B	\$ 12,105
1457251	METALLOGRAPH MONITOR,	OLYMPUS AMERICA INC	866-100-400	812004	JS-15	1002B	\$ 25,525
1457255	TELEVISION	SONY CORP	PVM1390	5006418	JS-15	1001	\$ 500
1550064	COMPUTER, MICRO SPLICER, MICRO FUSION	RAYNOR COMPUTER SERVICE INC NOYES FIBER SYSTEMS	MT460S	VL000115	JS-15	1001A	\$ 2,573
1553791	COMPONENT TEST SYSTEM	ANALOG DEVICES INC	MS2	AA1756	JS-15	3001A	\$ 5,531
1554170	CAMERA, DIGITAL CCD	PHOTOMETRICS LTD	LTS2800	27379	JS-15	1001	\$ 7,500
1605799	SCANNER, HRO	UNI WEST	CH250	NONE	JS-15	1001	\$ 27,886
1606360	CAMERA, DIGITAL VIDEO	SONY CORP	2.887.01-1001	1001	JS-15	HIBAY	\$ 5,850
1618239			DCR-TRV27	401508	JS-15	1002B	\$ 970

1618244	CAMERA, DIGITAL SYSTEM	PIXERA	PRO 600ES	NONE		JS-15	1002A	\$ 6,944
1619932	HOLDER, WORK DP4721	DAGE BACKPLANE SYSTEMS LTD	DP4721-BT22-MB		2021142	JS-15	1001A	\$ 5,635
1620038	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD	1801FB	MX0X11064832342B33JL		JS-15	1001	\$ 534
1620039	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD	1801FB	MX0X11064832342B33CL		JS-15	1000	\$ 534
1653049	SCANNER, TEST POINT	CIRRISS SYSTEMS CORP	CH+	30532		JS-15	1001A	\$ 5,795
1653050	ANALYZER, DIELECTRIC	VITREK CORP	944I		12278	JS-15	1001A	\$ 5,080
1653289	CAMERA SYSTEM, DIGITAL	NIKON INC	D1X	E162072		JS-15	1001	\$ 7,782
1653290	CAMERA SYSTEM, DIGITAL	NIKON INC	995 COOL PIX		3001320	JS-15	1002B	\$ 899
1653333	MICROSCOPE, STEREO	LEICA MICROSYSTEMS INC	MZ6	NONE		JS-15	3002	\$ 5,804
1734953	CURRENT TESTER, BASE UNIT	UNI WEST	US450LT		26	JS-15	HIBAY	\$ 7,000
1736973	CHAMBER, BURN-IN AND TEST	MICRO INSTRUMENT CO	2110	8943-001		JS-15	1001	\$ 31,756
1736978	DISPLAY UNIT	NEC TECHNOLOGIES INC FRMLY NEC	JC1743UMA	6631637LA		JS-15	1001	\$ 1,400
1736979	COMPUTER, MICRO	ZEISS CARL INC	TITAN II EISA	A913111964945		JS-15	1001	\$ 33,000
1736980	MICROSCOPE, LASER SCANNING	ZEISS CARL INC	LSM310	NONE		JS-15	1001	\$ 170,873
1736981	DISPLAY UNIT	SONY CORP	MICROC1782		6310313	JS-15	1001	\$ 1,400
1736984	ENCLOSURE, OPTICAL W/TABLE	TECHNICAL MFG CORP	NONEX	NONE		JS-15	1001	\$ 5,050
1825551	MICROSCOPE, STEREO	LEICA MICROSYSTEMS INC	MZ6	NONE		JS-15	1002B	\$ 5,735
1825554	MICROSCOPE, STEREO	LEICA MICROSYSTEMS INC	MZ6	NONE		JS-15	3002	\$ 5,626
1847577	SPOOLER, HIGH FREQUENCY WIRE	HALL INDUSTRIES	CUSTOM		2179	JS-15	HIBAY	\$ 120,900
1847578	PRINTER, ADP	EPSON AMERICA INC	P710A FX870	61P1348349		JS-15	HIBAY	\$ 500
1850353	COMPUTER, MICRO	M & A TECHNOLOGY INC	CXP200		75157	JS-15	1001B	\$ 944

1855765	COMPUTER, MICRO	M & A TECHNOLOGY INC	P200		76220	JS-15	3002	\$ 1,446
1855766	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04007		JS-15	3002	\$ 1,400
1918079	CHAMBER, ENVIRONMENTAL	CINCINNATI SUB-ZERO PRODUCTS	WU26-2-2LN2H/AC	97-WU-13025		JS-15	HIBAY	\$ 57,185
1922485	SIMULATOR, ELECTROSTATIC	ELECTRO-TECH SYS INC	930C		177	JS-15	1001A	\$ 8,190
1927088	CAMERA-RECORDING, VIDEO	SONY CORP	CCDTRV815		1011162	JS-15	1002B	\$ 1,000
1927089	SANDER, DISK	WILTON CORP	4406		33682	JS-15	HIBAY	\$ 11,063
1928796	CAMERA, DIGITAL STILL	SONY CORP	MVC-FD7		174087	JS-15	1002B	\$ 748
1928797	CUTTER, DUAL WAVE LASER	NEW WAVE RESEARCH	LCSII532/355		2760	JS-15	1001	\$ 42,140
1928798	POWER SUPPLY	HEWLETT-PACKARD CO	6624A	U537350941		JS-15	HIBAY	\$ 5,121
1928799	SAW, CUTOFF	BUEHLER EQUIPMENT CO	95C1800	532-71MSC-2523		JS-15	1001B	\$ 6,887
1987359	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3B1		JS-15	2000A	\$ 1,113
1987776	FURANCE, SAMPLE RE-MELT	ZEEBAC INC	900751	KK084674		JS-15	HIBAY	\$ 12,600
1995757	OSCILLOSCOPE, INFINIUM	HEWLETT-PACKARD CO	54815A	US40110205		JS-15	1001	\$ 14,508
1995758	MAINFRAME, LOAD TESTER, NOISE DETECTION	HEWLETT-PACKARD CO	6050A	US37141739		JS-15	HIBAY	\$ 1,891
1995760	HARNESS TESTER	PTI CONTROLS	4501L	0018L820170-597		JS-15	1001A	\$ 17,995
1995761	BASE UNIT	CIRIS SYSTEMS CORP	CH+		23255	JS-15	1001A	\$ 6,295
1995765	MOVER, AUTOMATIC SPECIMAN	STRUERS INC	ROTOFORCE4		5251515	JS-15	1001B	\$ 6,506
1996159	TESTER, ROCKWELL HARDNESS	INSTRON CORP	2000T	R2000P4697		JS-15	1002	\$ 15,040
1996179	X-RAY UNIT, MICROFOCUS	CRYSTAL TECHNOLOGY INC	CRX2000	1S2086.0800		JS-15	1001	\$ 128,798
1996180	MONITOR, COLOR VIDEO	SONY CORP	CPD-G500		2729826	JS-15	1001	\$ 821

1996181	PRINTER, ADP	MITSUBISHI ELECTRIC CORP	CP7000		100764	JS-15	1001	\$ 2,670
1996199	POWER SUPPLY	POWER TEN INC	R83C150100		0045C0038	JS-15	1001	\$ 8,100
1996200	DISPLAY UNIT	SONY CORP	PVM14M4U		2018942	JS-15	1002B	\$ 1,570
1996201	MICROSCOPE	LEICA	SZ6		NONE	JS-15	1001A	\$ 5,418
1996202	COMPUTER, LAPTOP	MICROSYSTEMS INC						
	MULTIMETER, DIGITAL	INTERNATIONAL BUSINESS MACHINE	2629H1U		78-W3377	JS-15	2000	\$ 4,112
1996203		AGILENT TECH INC	3458A		2823A26776	JS-15	1001A	\$ 7,195
1996204	PRESS, MOUNTING	STRUERS INC	LABOPRESS3		5081471	JS-15	1001B	\$ 6,578
1996205	CAMERA, DIGITAL	FUJI PHOTO FILM CO LTD	HC300Z		01B0020	JS-15	1002B	\$ 4,703
	CHAMBER, ENVIRONMENTAL TESTING	DESPATCH INDUSTRIES INC						
2078603	SAW, CUT-OFF		926E1-4-0-120		168454	JS-15	HIBAY	\$ 5,900
2078604	ABRASIVE	STRUERS INC	DISCOTOM5		5110531	JS-15	1001B	\$ 12,620
2080065	COMPUTER, MICRO	COMPAQ COMPUTER CORP	NONEX		6106 FCJ6 A001	JS-15	1002	\$ 1,700
2080327	MONITOR, VIDEO	SONY CORP	PVM20L5		2000803	JS-15	1002B	\$ 2,343
2081144	POWER SUPPLY	IVS INC	2000		15	JS-15	HIBAY	\$ 5,000
2081145	CONTROL	IVS INC	8100-7000-0210		142	JS-15	HIBAY	\$ 16,000
2081146	COMPUTER, MICRO	IVS INC	8100-7000-021D		142	JS-15	HIBAY	\$ 5,000
2081147	INTERFACE, DIGITAL	IVS INC	8100-7000-021A		142	JS-15	HIBAY	\$ 5,000
2081148	INTERFACE, ANALOG	IVS INC						
2081149	VACUUM CONTROL	IVS INC	NONE		1-359	JS-15	HIBAY	\$ 128,275
2081150	SYSTEM	KODAK CANADA LTD	XLS8660		HG704622	JS-15	1002B	\$ 4,130
2081161	PRINTER, ADP	DESPATCH INDUSTRIES INC	RAD1-42-2E		170607	JS-15	HIBAY	\$ 7,180
2082200	OVEN	DELL COMPUTER	4600		0U0314-42940-37C00LX	JS-15	1001A	\$ 1,538
2082202	COMPUTER, MICRO	CORP F-PC'S LTD						
2082203	SPECTRAL IMAGING	THERMO ELECTRON CORP	C10015		903064	JS-15	1002A	\$ 32,600
2082204	SYSTEM							
2082208	MICROSCOPE, ELECTRON	JEOL U S A INC	JSM-6360LV		MP18300062	JS-15	1002A	\$ 100,000

2082210	DETECTOR, EDS	THERMO ELECTRON CORP	4637	664F-1SUS-SN	JS-15	1002A	\$ 19,900
2082211	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	4600	0U0314-42940-37C00LV	JS-15	1001	\$ 1,538
2082212	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	4600	0U0314-42940-37C00LW	JS-15	1001A	\$ 1,538
2082214	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	4600	0U0314-42940-37C00LE	JS-15	1001	\$ 1,538
2082228	MILLING MACHINE	FADAL ENGINEERING CO INC	EMC	12003095626	JS-15	HIBAY	\$ 47,004
2082447	TELEVISION, FLAT PANEL PLASMA	PANASONIC	TH-50PHW3	XB2220388	JS-15	3002	\$ 9,999
2082450	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	2653-H4U	78-LV221	JS-15	3002	\$ 3,182
2082453	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	A31P4	78-LV267	JS-15	1001	\$ 3,182
2082456	PUMP	VARIAN VACUM PRODUCTS	DS302	108101-2002	JS-15	1000	\$ 8,450
2082457	LEAK DETECTOR	VARIAN VACUM PRODUCTS	959 TURBO	LLH2035	JS-15	1000	\$ 12,851
2082459	COMPUTER, MICRO	INTERNATIONAL BUSINESS MACHINE	6229-2PU	1S62292PUS8G7026	JS-15	1001	\$ 3,406
2082460	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	BN75-00103A	JS-15	1001	\$ 807
2082461	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	2653-H4U	78-LV206	JS-15	3001	\$ 3,182
2082463	CAMERA, INFRARED	FLIR SYSTEMS AB	SC500	19320021	JS-15	1001	\$ 38,208
2082465	MAINFRAME, LOAD	AGILENT TECH	N3300A	MY41000517	JS-15	1001B	\$ 7,050
2082466	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	55-F9886	JS-15	1001	\$ 807
2082467	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	55-F9894	JS-15	1001	\$ 807
2082468	COMPUTER, MICRO DISPLAY UNIT, COMBO	INTERNATIONAL BUSINESS MACHINE	6229-2PU	1S6229PU78G7035	JS-15	1001	\$ 3,406
2082469		INTERNATIONAL BUSINESS MACHINE	18U	AM890VF	JS-15	1001	\$ 1,947
2083821	POWER SOURCE	HEWLETT-PACKARD CO	6813A	US37290126	JS-15	1001	\$ 6,300
2083822	MULTIMETER,	KEITHLEY	2750	NONE	JS-15	1001A	\$ 6,235

	SWITCH SYSTEM	INSTRUMENTS INC						
2083823	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	SMM	CNGYG11	JS-15	1001	\$ 7,300	
2083824	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD	E551	NONE	JS-15	1001	\$ 4,400	
2083826	TESTER, TENSILE TO DISPLAY UNIT, COMBO	TINIUS OLSEN TESTING MACHINE INTERNATIONAL BUSINESS MACHINE	SUPER L 18U	NONE AM890YH	JS-15 JS-15	1002 1002	\$ 111,200 \$ 1,947	
2083830	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	55-F9884	JS-15	3001	\$ 807	
2083831	SPLICER, FIBEROPTIC FUSION	TRITEK SOLUTIONS INC.	FA5EII	200700	JS-15	3001A	\$ 8,490	
2083947	COMPUTER, MICRO	INTERNATIONAL BUSINESS MACHINE	6229-2PU	78G7071	JS-15	HIBAY	\$ 3,406	
2086562	SPECTROMETER, OPTICAL EMISSION	THERMO ELECTRON CORP	3460		JS-15	1001A	\$ 138,810	
2086596	PLASTIC MOLD DECAPSULATION SYS	NSC INTERNATIONAL CORP	PS101	5182	JS-15	1001B	\$ 40,222	
2086597	MICROSCOPE STEREO W/WORKSTATIO	NIKON CORP	P-FMD	1004923	JS-15	1002B	\$ 21,671	
2086659	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	A31P	KP-PYHY9	JS-15	1001	\$ 2,199	
2086661	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	A31P	KP-PYHY5	JS-15	1001B	\$ 2,199	
2120007	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	WHL	JPRR431	JS-15	1001	\$ 4,439	
2120008	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	WHL	3QRRH31	JS-15	1000	\$ 4,439	
2120009	METER, PRECISION LCR	QUADTECH INC	1420 PRECISION LCR		JS-15	1001A	\$ 5,020	
2145277	TESTER, MICRO HARDNESS SYSTEM,	STRUERS INC	DURAMIN A-300		JS-15	1002B	\$ 58,514	
2145278	THERMOJET TEMP CYCLING	FTS SYSTEMS INC	THJ80120	25082	JS-15	1001	\$ 32,825	

TESTER, COMPUTERIZED LOAD FRAM	MTS SYSTEMS CORP HEWLETT-PACKARD CO	QTEST/50LP	M10167205	JS-15	1002	\$ 30,575
2145279						
75376	PRINTER, ADP HEIGHT GAGE MICROHITE ELECTRON MICROWATCHER SYSTEM	33440A	15741	JS-36	1003A	\$ 1,672
1003559	BROWN AND SHARPE MFG CO	2J0777506	7.90014	JS-10	116A	\$ 14,203
1003668	PHOTOVOLT CORP MITSUBISHI ELECTRIC CORP HEWLETT-PACKARD CO	VS30H	82MH1161	JS-10	116A	\$ 11,500
1003669	PRINTER, VIDEO	CP10U	100886	JS-10	116A	\$ 1,599
1007564	PRINTER, ADP MICROWATCHER SYSTEM	33449A	3044J77274	JS-10	CAGE	\$ 1,420
1007984	PHOTOVOLT CORP HEWLETT-PACKARD CO	VS30H	82MH0820	JS-10	138	\$ 11,500
1118441	PRINTER, ADP	33449A	3104JD3898	JS-222	MODEL	\$ 1,696
1119355	PRINTER, ADP	P6280L	124599	JS-45	243E	\$ 8,454
1168290	PRINTER, ADP	33449A	3221A86120	JS-45	448G	\$ 1,385
1168298	PRINTER, ADP	33449A	3221A86021	JS-45	211C	\$ 1,385
1235200	PRINTER, ADP	P18MA	0FG0010931	JS-49	2300	\$ 739
1293584	DISPLAY UNIT	JC1404HMA	96K23685M	JS-13	HIBAY	\$ 649
1445981	PRINTER, ADP	C3982A	USCB037923	JS- 920N	3339	\$ 860
1447723	COMPUTER, MICRO	MANDA CXP150+	2887	JS-10	116	\$ 1,314
1457163	PARTICLE UNIT	WH2500	912697	JS-10	110	\$ 7,650
1457173	FIBERSCOPE, FLEXIBLE	IF8D4-20	NONE	JS-10	138	\$ 10,431
1457175	TESTER ULTRASONIC	DT2000	286	JS-10	138	\$ 8,900
1457176	GAGE, ELECTRONIC THICKNESS	26DL	910186505	JS-10	138	\$ 6,000
1457244	CAMERA, STILL PICTURE	VK-C350	90900759	JS-10	138	\$ 2,930

1542940	CAMERA- RECORDING, VIDEO MACHINE	PANASONIC	GP-KR212	39B17213	JS-45	243	\$ 500
1546171	COORDINATE MEASURING	BROWN AND SHARPE MFG CO	9129	1094-438	JS-10	116A	\$ 153,719
1546172	COMPUTER, MICRO CONTROLLER,	AST RESEARCH INC.	543W	A05202946	JS-10	CAGE	\$ 1,895
1546174	RETRO	BROWN AND SHARPE MFG CO	S32CS	177506/25	JS-10	116A	\$ 18,600
1549238	COMPUTER, MICRO	RAYNOR COMPUTER SERVICE INC	B260	304838	JS-16A	1012	\$ 1,838
1603976	CAMERA, DIGITAL STILL	SONY CORP	MVC-FD7	36252	JS- 920N	3339	\$ 733
1604063	COMPUTER, ELECTRONIC NOTEBOOK	APPLE COMPUTER INC	H0149	JE72510T9BU	JS-45	211BA	\$ 1,071
1604064	COMPUTER, PALMTOP	HEWLETT-PACKARD CO	HP320LX	SG74203143	JS-45	211BA	\$ 546
1606340	FIBERSCOPE, INDUSTRIAL	OLYMPUS OPTICAL CO LTD	IF2D5-12	1600172	JS-10	138	\$ 8,188
1618057	SWITCH, 50 VP DEVICE	NETSCREEN TECHNOLOGIES	NS-050-001	1.9112E+14	JS-45	528	\$ 5,267
1650596	SERVER, ADP	DELL COMPUTER CORP F-PC'S LTD	SMP01	2CXDH31	JS-46	300	\$ 6,339
1650741	SERVER, ADP	DELL COMPUTER CORP F-PC'S LTD	SMP01	FCXDH31	JS-46	300	\$ 6,339
1653476	CAMERA SYSTEM, DIGITAL	OLYMPUS OPTICAL CO LTD	E10	1080806	JS-10	138	\$ 1,800
1735911	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04090	JS-16	277	\$ 1,400
1735913	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03368	JS-44	244	\$ 1,400
1846726	DISPLAY UNIT	PANASONIC	E21	FA6630167	JS-45	422B	\$ 1,421
1846727	DISPLAY UNIT	PANASONIC	E21	FA6630774	JS-17	2070	\$ 1,421
1846728	DISPLAY UNIT	PANASONIC	E21	FA6630777	JS-10	116A	\$ 1,421
1846729	DISPLAY UNIT	PANASONIC	E21	FA6630779	JS-17	2063A	\$ 1,421
1846730	DISPLAY UNIT	PANASONIC	E21	FA6630781	JS-9	143	\$ 1,421
1847919	COORDINATE MEAS. MACHINE, PORT	ROMER INC	SYSTEM6 2500	S6-1-533	JS-10	116A	\$ 98,200

1847920	COMPUTER, LAPTOP	NEC TECHNOLOGIES INC FRMLY NEC	PC6620-91803	317042666	JS-10	116A	\$ 14,500
1850097	COMPUTER, MICRO	M & A TECHNOLOGY INC	CXP200	75123	JS-49	2300	\$ 944
1854566	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	91TXM	2AAWEF705E03476	JS-36	2030	\$ 1,400
1854567	COMPUTER, MICRO	M & A TECHNOLOGY INC	686	76258	JS-36	3028	\$ 1,446
1854945	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705104103	JS-36	2030	\$ 1,400
1854949	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705104204	JS-7A	245A	\$ 1,400
1854951	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705104097	JS-45	243D	\$ 1,400
1855742	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04190	JS-45	442C	\$ 1,400
1855744	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03587	JS-10	116A	\$ 1,400
1855746	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03336	JS-10	116A	\$ 1,400
1855748	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03327	JS-37	1209B	\$ 1,400
1855750	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03490	JS-32	109	\$ 1,400
1855752	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04176	JS-350	122	\$ 1,400
1855760	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04167	JS-45	243E	\$ 1,400
1855762	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03473	JS-45	211BA	\$ 1,400
1855764	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03480	JS-36	2030	\$ 1,400
1913060	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04092	JS-10	CAGE	\$ 1,400
1913066	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04060	JS-33	113	\$ 1,400
1913072	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04608	JS-36	2030	\$ 1,400
1913074	DISPLAY UNIT	MITSUBISHI	TFW9105SKTKW	705E03464	JS-44	244	\$ 1,400

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2082209	MASTERSCAN FLAW DETECTOR	SONATEST	MASTERSCAN 340	3401537C	JS-10	138	\$ 7,646
G099396	COMPUTER, MICRO	UNISYS CORP	T3146-00	382326783	JS-13	HIBAY	\$ 2,253

6. Attachment J.7A List of Government Furnished Property is amended to add the following property:

Safety and Mission Assurance (S&MA) Support Services Contract									
Contract No. NNJ06JE86C									
Number	ECN	Item Name	Manufacturer	Model No.	Serial No.	Cost	Building	Room	
G210375	1913977	PRINTER, ADP	HEWLETT-PACKARD	C3917A	JPKH004434	\$1,454	JS-LM3	129	
G210376	2081285	SCANNER, ADP	FUJITSU AMERICA INC	M4099D	501336	\$14,300	JS-LM3	140B	
G210377	1601884	CAMERA SYSTEM, DIGITAL	SONY CORP	MVC-FD88	134498	\$700	JS-LM3	317D	
G210378	1849611	DISPLAY UNIT	MAGITRONIC	C-SV2000PS	T1580638D0017	\$1,124	JS-LM3	431D	
G210379	1996144	SCANNER, IMAGE	FUJITSU AMERICA INC	M4099D	612	\$15,314	JS-LM3	158	
G210380	1617044	CAMERA SYSTEM, DIGITAL	NIKON CORP	COOLPIX885	3204477	\$530	JS-LM3	421	
G210381	1919998	PRINTER, ADP	HEWLETT-PACKARD	C4121A	USEF167471	\$1,461	JS-LM3	146	
G210382	1855762	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03473	\$1,400	JS-LM3	245	
G210383	1914925	SCANNER, ADP	FUJITSU LTD	M3099GX	6	\$19,000	JS-LM3	140B	
G210384	1929543	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEK090195	\$1,487	JS-LM3	325C	
G210385	1618057	SWITCH, 50 VPN DEVICE	NETSCREEN TECHNOLOGIES	NS-050-001	1.9112E+14	\$5,267	JS-LM3	431E	
G310386	-	PRINTER, OFFICEJET PRO	HEWLETT-PACKARD	1175Cxi	SGB83AGKK5	\$995	Austin, TX		
G210387	-	ZIP DRIVE	IOMEGA	Zip 100	PKAV48H5TB	\$141	Austin, TX		
G210388	2143453	COMPUTER, LAPTOP	DELL COMPUTER	PP05L	43307013061	\$1,949	Austin, TX		
G210389	Decal	ISS M MODEL WITH CASE	JOHNSON ENGINEERING	N/A	N/A	\$3,028	JS-LM3	407E	
G210390	-	TELEPHONE HEADSET	PLANTRONICS	M12	N/A	\$99	JS-LM3	345F	
G210391	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	351F	
G210392	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	149D	
G210393	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	251A	
G210394	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	349E	
G210395	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	305D	
G210396	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	357C	
G210397	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	149H	
G210398	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	349B	
G210399	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	219B	
G210400	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	352A	
G210401	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	349D	
G210402	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	149E	

Number	ECN	Item Name	Manufacturer	Model No.	Serial No.	Cost	Building	Room
G210403	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	347D
G210404	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	357B
G210405	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	351C
G210406	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	151C
G210407	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	151A
G210408	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	345E
G210409	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	151H
G210410	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	349C
G210411	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	351A
G210412	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	345C
G210413	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	337B
G210414	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	335B
G210415	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	309A
G210416	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	341B
G210417	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	343D
G210418	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	343F
G210419	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	222B
G210420	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	221D
G210421	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	114B
G210422	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	335A
G210423	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	341C
G210424	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	222C
G210425	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	345B
G210426	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	253E
G210427	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	253B
G210428	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B
G210429	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B
G210430	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B
G210431	-	TELEPHONE HEADSET	PLANTRONICS	S12	N/A	\$99	JS-LM3	440B

ATTACHMENT J.7B LIST OF INSTALLATION PROVIDED PROPERTY

ECN	ITEM NAME	MANUFACTURER	MODEL	SERIAL_NUM	BLDG	ROOM	COST
1354789	DISPLAY UNIT	VIEWSONICS INC	2082	5442510938	JS-17	2063	\$ 1,430
1449770	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	48432	2Q8J25020	JS-45	528	\$ 4,300
1455300	COMPUTER, MICRO	ADOSEA	ADSX20	AD1054	JS-36	1003A	\$ 1,530
1455307	TAPE DRIVE UNIT	EXABYTE CORP	EXB8500ST	1609770	JS-15	1002B	\$ 8,248
1553537	STORAGE UNIT, ADP	COMPAQ COMPUTER CORP	SERIES3092	D625HNM10763	JS-46	300	\$ 5,134
1553539	SERVER, ADP	COMPAQ COMPUTER CORP	PROLIANT4500	6539HNV50053	JS-46	300	\$ 15,371
1553540	STORAGE UNIT, ADP	COMPAQ COMPUTER CORP	SERIES3092	D625HNM10749	JS-46	300	\$ 5,134
1601884	CAMERA SYSTEM, DIGITAL	SONY CORP	MVC-FD88	134498	JS-45	616	\$ 700
1846724	DISPLAY UNIT	PANASONIC	EA21	FA6630063	JS-45	454	\$ 1,421
1848580	DISPLAY UNIT	VIEWSONICS INC	1782DC	2GT0200127	JS-46	300	\$ 531
1849611	DISPLAY UNIT	MAGITRONIC	C-SV2000PS	T1580638D0017	JS-17	2070	\$ 1,124
1855754	DISPLAY UNIT	ELCTRIC CORP	TFW9105SKTKW	705E04063	JS-45	626	\$ 1,400
1913977	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	JPKH004434	JS-45	211AB	\$ 1,454
1913981	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	USLC002488	JS-15	2000B	\$ 1,454
1913984	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	JPKH004426	JS-17	204	\$ 1,454
1914118	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000	D735HWA10427	JS-46	300	\$ 6,648
1929618	COMPUTER, LAPTOP	TOSHIBA HOSHASEN CO LTD	PAS401U	29451619A	JS-45	528	\$ 1,299
1984694	DISPLAY UNIT	COMPAQ COMPUTER CORP	630	851GC25KC573	JS-45	528	\$ 1,107
1984729	COMPUTER, MICRO	COMPAQ COMPUTER CORP	SP700	D942CMW8K032	JS-45	548	\$ 3,964
1986152	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	PROLIANT 3000	D029DDL2K049	JS-46	300	\$ 15,014

1986210	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	PROLIANT3000	D029DDL2K053	JS-46	300	\$ 12,160
1986475	SERVER, ADP	COMPAQ COMPUTER CORP	PROLIANT3000A016 615	D918CMJ10369	JS-46	300	\$ 11,220
1987351	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3A2	JS-15	1002B	\$ 1,113
1987356	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3AY	JS-15	1001	\$ 1,113
1987357	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3DE	JS-32	143	\$ 1,113
1987361	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3C2	JS-15	1001B	\$ 1,113
1987362	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3CA	JS-15	1001A	\$ 1,113
1987363	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3AX	JS-45	240	\$ 1,113
1987365	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3DA	JS-15	1002B	\$ 1,113
1987368	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3CE	JS-15	1002B	\$ 1,113
1987927	CONTROLLER, INTERFACE	RENISHAW INC	1S1	S96331	JS-10	116A	\$ 13,998
1987928	POWER SUPPLY	ARTESIAN INDUSTRIES INC	CL40-7610	ZATN0181	JS-10	116A	\$ 13,997
1991051	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	161156-001	D046FPR1K042	JS-46	300	\$ 12,956
1991305	COMPUTER, MICRO	COMPAQ COMPUTER	PROLIANT ML350	D117FSC1K320	JS-15	1001	\$ 4,002
1991327	COMPUTER, MICRO	COMPAQ COMPUTER CORP	PROLIANT-ML530	D113FPR1K018	JS-46	300	\$ 2,999
2080086	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPL	ZFC01	JS-45	548	\$ 2,570
2080087	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPL	ZFCOR	JS-45	548	\$ 2,570
2081285	SCANNER, ADP	FUJITSU AMERICA INC	M4099D	501336	JS-45	422C	\$ 14,300
2084436	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	ML370PROLIANT	D234KF51D078	JS-46	300	\$ 3,884
2084437	PROCESSOR CENTRAL, ADP	COMPAQ COMPUTER CORP	ML370PROLIANT	D234KF51D091	JS-46	300	\$ 5,589

2143453	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PP05L	43307013061	JS-45	233	\$ 1,949
2152028	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-225	116	\$ 1,563
2152029	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-225	116	\$ 1,563
2152030	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-45	528	\$ 1,563
2152031	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-45	528	\$ 1,563
2152032	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-45	458	\$ 1,563
2152033	COMPUTER, LAPTOP	VIEWSONICS INC	VSVDPD2297-1M	3.44023E+11	JS-33	113	\$ 1,563
2521659	SERVER, ADP	HEWLETT-PACKARD CO	PROLIANT ML350	EA5KKZRZ3G	JS-45	458	\$ 5,122
1008417	PRINTER, ADP	HEWLETT-PACKARD CO	LJ III	3038J71482	JS-HB- 17	205	\$ 1,790
1354416	PRINTER, ADP	HEWLETT-PACKARD CO	C2009A	USFB378280	JS-HB- 17	D210	\$ 4,046
1744326	TAPE DRIVE UNIT	QUANTUM CORP	TH3BA-YF	CX70702218	JS-HB- 17	D210	\$ 2,525
1854517	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000	D735HWA10120	JS-HB- 17	D210	\$ 6,648
1913982	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	JPKH004132	JS-HB- 17	2D36	\$ 1,454
1914026	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000	3734HWA16029	JS- PALMD	150	\$ 6,648
1919138	PRINTER, ADP	XEROX CORP F- XEROX DATA SYS	DOCPRINT4517	M3F-021044	JS-HB- 17	2C34	\$ 1,303
1919139	PRINTER, ADP	XEROX CORP F- XEROX DATA SYS	DOCPRINT4517	M3F-015339	JS-HB- 14	1D85	\$ 1,303
1987364	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3B7	JS- PALMD	150	\$ 1,113
1987410	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPX	JW8P601	JS-HB- 17	2D34	\$ 2,638
1987411	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	PPX	5X8P601	JS- PALMD	150	\$ 2,638

2078685	PRINTER, ADP	HEWLETT-PACKARD CO	C4254A	USQB065791	JS- PALMD	150	\$ 1,683
2080089	SERVER, ADP	COMPAQ COMPUTER CORP	PROLIANT ML370	D021DKH1K045	JS-HB- 17	2D35	\$ 5,355
2082026	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	146P031	JS- PLMDL	150	\$ 1,416
2082027	PRINTER, ADP	HEWLETT-PACKARD CO	LASERJET 2300N	CNBDD11821	JS- PLMDL	150	\$ 976
2086581	PROJECTOR, POWER LITE	EPSON AMERICA INC	730C	EE20380083C	JS-HB- 17	2C34	\$ 2,428
2086582	SEVER, ADP	DELL COMPUTER CORP F-PC'S LTD	2600	5HLFC31	JS-HB- 17	2D34	\$ 4,982
2086583	COMPUTER, NOTEBOOK	DELL COMPUTER CORP F-PC'S LTD	C840	4BJHC31	JS-HB- 17	2D34	\$ 2,500
2086584	COMPUTER, NOTEBOOK	DELL COMPUTER CORP F-PC'S LTD	C840	2BJHC31	JS-HB- 17	2D34	\$ 2,500
2086700	PRINTER, ADP	HEWLETT-PACKARD CO	C9661A	JPGMD47889	JS-HB- 17	2D34	\$ 2,464
2139240	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	CGWKV11	JS-HB- 14	1D93	\$ 1,702
2139241	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	4JWKV11	JS-HB- 14	1D82	\$ 1,702
2139242	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	6JWKV11	JS-HB- 14	1D90	\$ 1,702
2139243	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	FGWKV11	JS- PALMD	150	\$ 1,702
2139244	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	BHWKV11	JS-HB- 14	1D85	\$ 1,702
2139245	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	FHWKV11	JS-HB- 14	1D113	\$ 1,702
2139246	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	5HWKV11	JS-HB- 14	1D92	\$ 1,702
2139247	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	HGWKV11	JS-HB- 17	2D30B	\$ 1,702

2139248	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	JGWQKV11	JS-HB- 17	2D34	\$ 1,702
2139249	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	7HWKV11	JS- PALMD	150	\$ 1,702
2139250	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	HHWKV11	JS- PALMD	150	\$ 1,702
2139251	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	OPTIPLEX GX260	8GWKV11	JS-HB- 14	1D80	\$ 1,702
156744	RECORDER, VIDEO CASSETTE	PANASONIC	AG6100	E6TA00356	JS-45	248A	\$ 1,098
304473	RECEIVER, TELEVISION	SONY CORP	CVM1271	2006717	JS-17	2062A	\$ 562
1033304	PRINTER, COLOR VIDEO	SONY CORP	UP5000	59699	JS-9B	2150A	\$ 5,718
1033312	HANDLER, DIGITAL INFO W/KB	SONY CORP	DIH2000	10162	JS-9B	2150A	\$ 2,416
1033317	MONITOR, TELEVISION	SONY CORP	PVM1342Q	2012239	JS-9B	2150A	\$ 883
1033343	RECORDER/PLAYER STILL VIDEO	SONY CORP	MVR5600	11305	JS-9B	2150A	\$ 3,156
1033860	SCANNER, COLOR VIDEO	SONY CORP	UY-T55	10573	JS-9B	2150A	\$ 5,100
1456314	READER, CD ROM	SUN MICROSYSTEMS INC	411	137G4348	JS-15	1000	\$ 766
1549207	COMPUTER, MICRO	RAYNOR COMPUTER SERVICE INC	B260	304828	JS-9B	2150A	\$ 1,838
1554132	RECORDER, VIDEO CASSETTE	HITACHI DENSHI LTD NEC TECHNOLOGIES INC FRMLY NEC	VT3800A	80908532	JS-9B	2150A	\$ 950
1554146	DISPLAY UNIT	COMPAQ COMPUTER CORP	JC1404HMA	93M10114S	JS-9B	2150A	\$ 908
1554147	COMPUTER, MICRO	ELECTROHOME LTD	2571	4808AQ280350	JS-9B	2150A	\$ 6,383
1554155	PROJECTOR	ELECTROHOME LTD	ECP3000	105370008 A	JS-9B	2150A	\$ 10,460
1617044	CAMERA SYSTEM, DIGITAL	NIKON CORP	COOLPIX885	3204477	JS-17	236	\$ 530
1653512	CAMERA SYSTEM,	NIKON CORP	COOLPIX885	3204478	JS-45	528	\$ 530

	DIGITAL						
1913969	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	JPKH004145	JS-9B	2150	\$ 1,454
1914117	SERVER, ADP	COMPAQ COMPUTER CORP	SERIES4000	D735HWA30075	JS-45	240	\$ 11,823
1914638	DISPLAY UNIT	VIEWSONIC CORP/ DIV KEYPOINT	VCDTS21360	1J73100191	JS-45	619	\$ 979
1914926	DISPLAY UNIT	COMPAQ COMPUTER CORP	620	643CB00HA620	JS-45	240	\$ 750
1917663	DISK DRIVE UNIT	IOMEGA	V1000S	W1MU3807AW	JS-45	528	\$ 800
1919497	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USNC084476	JS-45	548	\$ 1,498
1996144	SCANNER, IMAGE	FUJITSU AMERICA INC	M4099D	612	JS-45	619	\$ 5,314
1915270	COMPUTER, LAPTOP	IMPERIAL COMPUTER CORP 318 N B	6200AT	N6SD817401149	JS-45	528	\$ 1,890
1917664	DISK DRIVE UNIT	IOMEGA	V1000S	W1MU380TA4	JS-45	528	\$ 800
1926920	BONDER, WEDGE- WEDGE	WEST-BOND INC	7600A66A	15132	JS-15	1001	\$ 13,215
1996337	INSPECTION PENETRANT, LIQUID FILTRATION SYSTEM, NANO	GOULD BASS	UPE101	6027	JS-10	110	\$ 18,877
1996338	COMPUTER, MICRO	INFO TECH	SPLITTERXD	AA11A	JS-10	110	\$ 15,945
2080522	LOAD CELL	COMPAQ COMPUTER CORP	ML370	3882Q022	JS-46	300	\$ 4,912
17645	MONITOR, TELEVISION	SINTECH DIV OF MTS INC	3397-136	8960	JS-15	1002	\$ 10,000
304549	COMPUTER, MICRO	SONY CORP	CVM1750	11720	JS-15	3001A	\$ 826
1336357	MONITOR, TELEVISION	SUN MICROSYSTEMS INC	144	328F0610	JS-420	4013	\$ 0,547
1446917	CAMERA- RECORDING, VIDEO ANALYZER, DIELECTRIC	SONY CORP	PVM1354Q	2016042	JS-15	3001A	\$ 1,075
1446919		SONY CORP	DXC170A	111369	JS-15	3002	\$ 1,190
1446921		VITREK CORP	944I	11353	JS-15	1001A	\$ 5,784

1446925	TEST STATION, AUTOMATED ELECT	INTEGRATED SYSTEMS INC	NONE	330	JS-420	4013	\$ 215,750
1447124	CAMERA, DIGITAL VIDEO	SONY CORP	DKC5000	10507	JS-15	1002B	\$ 9,220
1447125	CAMERA, DIGITAL VIDEO	SONY CORP	DKC5000	10514	JS-15	1002B	\$ 9,220
1447126	MONITOR	SONY CORP	PVM1953MD	2011487	JS-15	1002B	\$ 2,011
1447127	CAMERA, DIGITAL MICROSCOPE	POLAROID CORP	DMC1	08701005AJ	JS-15	1002B	\$ 5,275
1447129	PRINTER, VIDEO	SONY CORP	UP5500	11069	JS-15	1002B	\$ 5,450
1455808	SPLICER, MICRO W/CASE	PERFORMED LINE PRODUCTS CO	MS2	AA1751	JS-15	3001A	\$ 6,490
1455815	MONITOR, TELEVISION	SONY CORP	KV2511CR	2000574	JS-15	3002	\$ 1,121
1455817	CAMERA- RECORDING, VIDEO	SONY CORP	DXC107A	101134	JS-15	3001A	\$ 1,360
1455819	DISPLAY UNIT	SONY CORP	PVM1343MD	2021238	JS-15	3002	\$ 1,260
1455850	SPLICER, MICRO W/CASE	PERFORMED LINE PRODUCTS CO	MS2	AA1748	JS-15	3001A	\$ 6,490
1456392	COMPUTER, MICRO	M & A TECHNOLOGY INC	MANDA CXP150+	2668	JS-15	1001	\$ 1,314
1457027	MICROMANIPULATOR CONTROL UNIT, TEMPERATURE	MICROMANIPULATOR CO INC THE	6000	910178	JS-15	1001	\$ 27,227
1457029		MICROMANIPULATOR CO INC THE	HCSM	907177	JS-15	1001B	\$ 8,000
1457037	MICROTESTER	DAGE BACKPLANE SYSTEMS LTD	SERIES22A	91288	JS-15	1001	\$ 14,808
1457041	SIMULATOR, ELECTROSTATIC	ELECTRO-TECH SYS INC	910	180	JS-15	1001A	\$ 5,494
1457048	OSCILLOSCOPE	TEKTRONIX INC	2467B	B051280	JS-15	1001	\$ 12,804
1457051	CYCLING SYSTEM, THERMAL	F T S CORP	TJ80B2	TJ-8-91-52	JS-420	4013	\$ 17,875
1457052	TESTER, COMPONENT	ANALOG DEVICES INC	LST2020	122-1108	JS-15	1001A	\$ 34,100
1457053	DISPLAY UNIT	QUME CORP	QVT101+	AA010752	JS-15	1001A	\$ 792
1457054	OSCILLOSCOPE	HEWLETT-PACKARD CO	54510A	3022A01894	JS-15	1001	\$ 9,822
1457056	TEST HEAD, MIX	ANALOG DEVICES	LTS0680	1067670	JS-15	1001	\$ 14,000

	SIGNAL	INC						
1457058	TEST HEAD, DIGITAL	ANALOG DEVICES INC	LTS0655		9150450	JS-15	1001	\$ 10,995
1457059	COMPONENT TEST SYSTEM	ANALOG DEVICES INC	LTS2410		2190017	JS-15	1001	\$ 5,500
1457060	TESTER, COMPONENT	ANALOG DEVICES INC	LTS2600		256098	JS-15	1001A	\$ 8,580
1457061	TESTER, COMPONENT	ANALOG DEVICES INC	LTS2510		1158161	JS-15	1001	\$ 5,500
1457066	CURVE TRACER	SONY CORP	370A		J302151	JS-15	1001A	\$ 20,935
1457071	MULTIMETER	HEWLETT-PACKARD CO	3458A		2823A09365	JS-15	1001	\$ 6,914
1457073	METER, PRECISION LCR	HEWLETT-PACKARD CO	4284A		2940J02897	JS-15	1001A	\$ 10,728
1457084	SPECTROMETER, ATOMIC	APPLIED RESEARCH LABORATORIES	3460		5359	JS-15	1001A	\$ 74,062
1457085	TESTER, WIRE	CLINTON INSTRUMENT CO	30-Jun		NONE	JS-15	1001A	\$ 14,600
1457089	CABINET, X-RAY SYSTEM	HEWLETT-PACKARD CO	438558		2317A10279	JS-15	1001A	\$ 17,717
1457091	LEAK DETECTOR, MASS SPECTROMTR	VARIAN VACUUM PRODUCTS	947		DJAE 1001	JS-15	1001A	\$ 30,920
1457095	PINDTESTER	SPECTRAL DYNAMICS	4501A		9131B820 156	JS-15	1001A	\$ 10,000
1457107	CIRCULATOR REFRIGERATED BATH	NESLAB INSTRUMENTS INC	RTE100		91HML92780-10	JS-15	1001B	\$ 8,475
1457108	ION ETCHER, MICRO REACTIVE	TECHNICS INC	85RIE		NONE	JS-15	1001B	\$ 22,000
1457121	SAW, DIAMOND PRECISION	BUEHLER LTD	ISOMET PLUS		443-ISP-0666	JS-15	1001B	\$ 6,775
1457150	OVEN	AEHR TEST SYSTEMS	MAX64000		7676	JS-333	20012	\$ 76,265
1457151	SHOCK TESTER, THERMAL	GENERAL SIGNAL CORP LINDBERG	WSP109C-MP3		WSP-247	JS-15	HIBAY	\$ 26,527
1457152	CHAMBER, TEMP/HUMIDITY	DESPATCH INDUSTRIES INC	16619A		148493	JS-15	HIBAY	\$ 18,269
1457167	EDDY CURRENT INSTRUMENT	UNI WEST	51294		39	JS-15	HIBAY	\$ 9,750

1457177	TESTER HARDNESS	KRAUTKRAMER BRANSON INC	MIC2	31990-1139	JS-15	HIBAY	\$ 7,698
1457180	FUME HOOD	KEWAUNEE SCIENTIFIC EQUIPMENT	501152NWE	R917275	JS-15	1001B	\$ 6,730
1457181	FUME HOOD	KEWAUNEE SCIENTIFIC EQUIPMENT	501152NWE	R918085	JS-15	1001B	\$ 6,730
1457190	DISPLAY UNIT	TOSHIBA AMERICAN INFO SYSTEMS	TVM901	70559	JS-15	1002	\$ 4,805
1457203	COMPARATOR, OPTICAL	STARRETT L S CO WEBBER GAGE DV	HB400	3549	JS-15	1001A	\$ 9,939
1457206	SCALE TESTER	NEW AGE INDUSTRIAL CORP INC	NI400C	91846	JS-15	1002	\$ 11,875
1457218	PRINTER, ADP	OKIDATA CORP	GE5253A	012C0447611	JS-15	1001A	\$ 1,200
1457231	DISPLAY UNIT	SONY CORP	GVM2020	2004433	JS-15	1002B	\$ 1,870
1457234	PRINTER, ADP	TEKTRONIX INC	4684	JPR578	JS-15	1002B	\$ 8,576
1457240	MICROSCOPE MEASURING	LEICA MICROSYSTEMS INC	301-371.011	561001/141264	JS-15	1002B	\$ 29,090
1457241	CAMERA- RECORDING, VIDEO	SONY CORP	DXC151A	101279	JS-15	1001	\$ 1,310
1457249	TESTER, MICROHARDNESS	LECO CORP F- LABORATORY EQUIP	M400G1	200681	JS-15	1002B	\$ 12,105
1457251	METALLOGRAPH	OLYMPUS AMERICA INC	866-100-400	812004	JS-15	1002B	\$ 25,525
1457255	MONITOR, TELEVISION	SONY CORP	PVM1390	5006418	JS-15	1001	\$ 500
1550064	COMPUTER, MICRO	RAYNOR COMPUTER SERVICE INC	MT460S	VL000115	JS-15	1001A	\$ 2,573
1553791	SPLICER, MICRO FUSION	NOYES FIBER SYSTEMS	MS2	AA1756	JS-15	3001A	\$ 5,531
1554170	COMPONENT TEST SYSTEM	ANALOG DEVICES INC	LTS2800	27379	JS-15	1001	\$ 7,500
1605799	CAMERA, DIGITAL CCD	PHOTOMETRICS LTD	CH250	NONE	JS-15	1001	\$ 27,886
1606360	SCANNER, HRO	UNI WEST	2.887.01-1001	1001	JS-15	HIBAY	\$ 5,850
1618239	CAMERA, DIGITAL VIDEO	SONY CORP	DCR-TRV27	401508	JS-15	1002B	\$ 970

	CAMERA, DIGITAL SYSTEM	PIXERA	PRO 600ES	NONE	JS-15	1002A	\$ 6,944
1618244	HOLDER, WORK DP4721	DAGE BACKPLANE SYSTEMS LTD	DP4721-BT22-MB	2021142	JS-15	1001A	\$ 5,635
1619932	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD	1801FB	MX0X1106483234 2B33JL	JS-15	1001	\$ 534
1620038	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD	1801FB	MX0X1106483234 2B33CL	JS-15	1000	\$ 534
1620039	SCANNER, TEST POINT	CIRRISS SYSTEMS CORP	CH+	30532	JS-15	1001A	\$ 5,795
1653049	ANALYZER, DIELECTRIC	VITREK CORP	944I	12278	JS-15	1001A	\$ 5,080
1653050	CAMERA SYSTEM, DIGITAL	NIKON INC	D1X	E162072	JS-15	1001	\$ 7,782
1653289	CAMERA SYSTEM, DIGITAL	NIKON INC	995 COOL PIX	3001320	JS-15	1002B	\$ 899
1653290	MICROSCOPE, STEREO	LEICA MICROSYSTEMS INC	MZ6	NONE	JS-15	3002	\$ 5,804
1653333	CURRENT TESTER, BASE UNIT	UNI WEST	US450LT	26	JS-15	HIBAY	\$ 7,000
1734953	CHAMBER, BURN-IN AND TEST	MICRO INSTRUMENT CO	2110	8943-001	JS-15	1001	\$ 31,756
1736973	DISPLAY UNIT	NEC TECHNOLOGIES INC FRMLY NEC	JC1743UMA	6631637LA	JS-15	1001	\$ 1,400
1736978	COMPUTER, MICRO	ZEISS CARL INC	TITAN II EISA	A913111964945	JS-15	1001	\$ 33,000
1736979	MICROSCOPE, LASER SCANNING	ZEISS CARL INC	LSM310	NONE	JS-15	1001	\$ 170,873
1736980	DISPLAY UNIT	SONY CORP	MICROC1782	6310313	JS-15	1001	\$ 1,400
1736981	ENCLOSURE, OPTICAL W/TABLE	TECHNICAL MFG CORP	NONEX	NONE	JS-15	1001	\$ 5,050
1736984	MICROSCOPE, STEREO	LEICA MICROSYSTEMS INC	MZ6	NONE	JS-15	1002B	\$ 5,735
1825551	MICROSCOPE, STEREO	LEICA MICROSYSTEMS INC	MZ6	NONE	JS-15	3002	\$ 5,626
1825554	SPOOLER, HIGH FREQUENCY WIRE	HALL INDUSTRIES	CUSTOM	2179	JS-15	HIBAY	\$ 120,900
1847577	PRINTER, ADP	EPSON AMERICA INC	P710A FX870	61P1348349	JS-15	HIBAY	\$ 500
1847578	COMPUTER, MICRO	M & A TECHNOLOGY INC	CXP200	75157	JS-15	1001B	\$ 944

1855765	COMPUTER, MICRO	M & A TECHNOLOGY INC	P200	76220	JS-15	3002	\$ 1,446
1855766	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04007	JS-15	3002	\$ 1,400
1918079	CHAMBER, ENVIRONMENTAL	CINCINNATI SUB-ZERO PRODUCTS	WU26-2-2LN2H/AC	97-WU-13025	JS-15	HIBAY	\$ 57,185
1922485	SIMULATOR, ELECTROSTATIC	ELECTRO-TECH SYS INC	930C	177	JS-15	1001A	\$ 8,190
1927088	CAMERA-RECORDING, VIDEO	SONY CORP	CCDTRV815	1011162	JS-15	1002B	\$ 1,000
1927089	SANDER, DISK	WILTON CORP	4406	33682	JS-15	HIBAY	\$ 11,063
1928796	CAMERA, DIGITAL STILL	SONY CORP	MVC-FD7	174087	JS-15	1002B	\$ 748
1928797	CUTTER, DUAL WAVE LASER	NEW WAVE RESEARCH	LCSII532/355	2760	JS-15	1001	\$ 42,140
1928798	POWER SUPPLY	HEWLETT-PACKARD CO	6624A	U537350941	JS-15	HIBAY	\$ 5,121
1928799	SAW, CUTOFF	BUEHLER EQUIPMENT CO	95C1800	532-71MSC-2523	JS-15	1001B	\$ 6,887
1987359	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	P6450	5J3B1	JS-15	2000A	\$ 1,113
1987776	FURANCE, SAMPLE RE-MELT	ZEEBAC INC	900751	KK084674	JS-15	HIBAY	\$ 12,600
1995757	OSCILLOSCOPE, INFINIUM	HEWLETT-PACKARD CO	54815A	US40110205	JS-15	1001	\$ 14,508
1995758	MAINFRAME, LOAD	HEWLETT-PACKARD CO	6050A	US37141739	JS-15	HIBAY	\$ 1,891
1995760	TESTER, NOISE DETECTION	PTI CONTROLS	4501L	0018L820170-597	JS-15	1001A	\$ 17,995
1995761	HARNESSTESTER BASE UNIT	CIRRIS SYSTEMS CORP	CH+	23255	JS-15	1001A	\$ 6,295
1995765	MOVER, AUTOMATIC SPECIMAN	STRUERS INC	ROTOFORCE4	5251515	JS-15	1001B	\$ 6,506
1996159	TESTER, ROCKWELL HARDNESS	INSTRON CORP	2000T	R2000P4697	JS-15	1002	\$ 15,040
1996179	X-RAY UNIT, MICROFOCUS	CRYSTAL TECHNOLOGY INC	CRX2000	1S2086.0800	JS-15	1001	\$ 128,798
1996180	MONITOR, COLOR VIDEO	SONY CORP	CPD-G500	2729826	JS-15	1001	\$ 821

1996181	PRINTER, ADP	MITSUBISHI ELECTRIC CORP	CP7000	100764	JS-15	1001	\$ 2,670
1996199	POWER SUPPLY	POWER TEN INC	R83C150100	0045C0038	JS-15	1001	\$ 8,100
1996200	DISPLAY UNIT	SONY CORP	PVM14M4U	2018942	JS-15	1002B	\$ 1,570
1996201	MICROSCOPE	LEICA	SZ6	NONE	JS-15	1001A	\$ 5,418
1996202	COMPUTER, LAPTOP	MICROSYSTEMS INC INTERNATIONAL BUSINESS MACHINE	2629H1U	78-W3377	JS-15	2000	\$ 4,112
1996203	MULTIMETER, DIGITAL	AGILENT TECH INC	3458A	2823A26776	JS-15	1001A	\$ 7,195
1996204	PRESS, MOUNTING	STRUERS INC	LABOPRESS3	5081471	JS-15	1001B	\$ 6,578
1996205	CAMERA, DIGITAL COLOR	FUJI PHOTO FILM CO LTD	HC300Z	01B0020	JS-15	1002B	\$ 4,703
2078603	CHAMBER, ENVIRONMENTAL TESTING	DESPATCH INDUSTRIES INC	926E1-4-0-120	168454	JS-15	HIBAY	\$ 5,900
2078604	SAW, CUT-OFF ABRASIVE	STRUERS INC	DISCOTOM5	5110531	JS-15	1001B	\$ 12,620
2080065	COMPUTER, MICRO	COMPAQ COMPUTER CORP	NONEX	6106 FCJ6 A001	JS-15	1002	\$ 1,700
2080327	MONITOR, VIDEO COLOR	SONY CORP	PVM20L5	2000803	JS-15	1002B	\$ 2,343
2081144	POWER SUPPLY CONTROL	IVS INC	2000	15	JS-15	HIBAY	\$ 5,000
2081145	COMPUTER, MICRO	IVS INC	8100-7000-0210	142	JS-15	HIBAY	\$ 16,000
2081146	INTERFACE, DIGITAL	IVS INC	8100-7000-021D	142	JS-15	HIBAY	\$ 5,000
2081147	INTERFACE, ANALOG	IVS INC	8100-7000-021A	142	JS-15	HIBAY	\$ 5,000
2081148	VACUUM CONTROL SYSTEM	IVS INC	NONE	1-359	JS-15	HIBAY	\$ 128,275
2081161	PRINTER, ADP	KODAK CANADA LTD	XLS8660	HG704622	JS-15	1002B	\$ 4,130
2082200	OVEN	DESPATCH INDUSTRIES INC	RAD1-42-2E	170607	JS-15	HIBAY	\$ 7,180
2082202	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	4600	0U0314-42940- 37C00LX	JS-15	1001A	\$ 1,538
2082203	SPECTRAL IMAGING SYSTEM	THERMO ELECTRON CORP	C10015	903064	JS-15	1002A	\$ 32,600
2082208	MICROSCOPE, ELECTRON	JEOL U S A INC	JSM-6360LV	MP18300062	JS-15	1002A	\$ 100,000

2082210	DETECTOR, EDS	THERMO ELECTRON CORP	4637	664F-1SUS-SN 0U0314-42940- 37C00LV	JS-15	1002A	\$ 19,900
2082211	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	4600	0U0314-42940- 37C00LW	JS-15	1001	\$ 1,538
2082212	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	4600	0U0314-42940- 37C00LE	JS-15	1001A	\$ 1,538
2082214	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	4600	12003095626	JS-15	1001	\$ 1,538
2082228	MILLING MACHINE	FADAL ENGINEERING CO INC	EMC		JS-15	HIBAY	\$ 47,004
2082447	TELEVISION, FLAT PANEL PLASMA	PANASONIC	TH-50PHW3	XB2220388	JS-15	3002	\$ 9,999
2082450	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	2653-H4U	78-LV221	JS-15	3002	\$ 3,182
2082453	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	A31P4	78-LV267	JS-15	1001	\$ 3,182
2082456	PUMP	VARIAN VACUM PRODUCTS	DS302	108101-2002	JS-15	1000	\$ 8,450
2082457	LEAK DETECTOR	VARIAN VACUM PRODUCTS	959 TURBO	LLH2035	JS-15	1000	\$ 12,851
2082459	COMPUTER, MICRO	INTERNATIONAL BUSINESS MACHINE	6229-2PU	1S62292PUS8G7 026	JS-15	1001	\$ 3,406
2082460	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	BN75-00103A	JS-15	1001	\$ 807
2082461	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	2653-H4U	78-LV206	JS-15	3001	\$ 3,182
2082463	CAMERA, INFRARED	FLIR SYSTEMS AB	SC500	19320021	JS-15	1001	\$ 38,208
2082465	MAINFRAME, LOAD	AGILENT TECH	N3300A	MY41000517	JS-15	1001B	\$ 7,050
2082466	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	55-F9886	JS-15	1001	\$ 807
2082467	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	55-F9894	JS-15	1001	\$ 807
2082468	COMPUTER, MICRO	INTERNATIONAL BUSINESS MACHINE	6229-2PU	1S6229PU78G70 35	JS-15	1001	\$ 3,406
2082469	DISPLAY UNIT, COMBO	INTERNATIONAL BUSINESS MACHINE	18U	AM890VF	JS-15	1001	\$ 1,947
2083821	POWER SOURCE	HEWLETT-PACKARD CO	6813A	US37290126	JS-15	1001	\$ 6,300
2083822	MULTIMETER,	KEITHLEY	2750	NONE	JS-15	1001A	\$ 6,235

	SWITCH SYSTEM	INSTRUMENTS INC					
2083823	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	SMM	CNGYG11	JS-15	1001	\$ 7,300
2083824	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD	E551	NONE	JS-15	1001	\$ 4,400
2083826	TESTER, TENSILE TO DISPLAY UNIT, COMBO	TINIUS OLSEN TESTING MACHINE	SUPER L	NONE	JS-15	1002	\$ 111,200
2083827		INTERNATIONAL BUSINESS MACHINE	18U	AM890YH	JS-15	1002	\$ 1,947
2083830	DISPLAY UNIT	INTERNATIONAL BUSINESS MACHINE	6657-HG2	55-F9884	JS-15	3001	\$ 807
2083831	SPLICER, FIBEROPTIC FUSION	TRITEK SOLUTIONS INC.	FASEII	200700	JS-15	3001A	\$ 8,490
2083947	COMPUTER, MICRO	INTERNATIONAL BUSINESS MACHINE	6229-2PU	78G7071	JS-15	HIBAY	\$ 3,406
2086562	SPECTROMETER, OPTICAL EMISSION	THERMO ELECTRON CORP	3460	2704	JS-15	1001A	\$ 138,810
2086596	PLASTIC MOLD DECAPSULATION SYS	NSC INTERNATIONAL CORP	PS101	5182	JS-15	1001B	\$ 40,222
2086597	MICROSCOPE STEREO W/WORKSTATIO	NIKON CORP	P-FMD	1004923	JS-15	1002B	\$ 21,671
2086659	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	A31P	KP-PYHY9	JS-15	1001	\$ 2,199
2086661	COMPUTER, LAPTOP	INTERNATIONAL BUSINESS MACHINE	A31P	KP-PYHY5	JS-15	1001B	\$ 2,199
2120007	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	WHL	JPRR431	JS-15	1001	\$ 4,439
2120008	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD	WHL	3QRRH31	JS-15	1000	\$ 4,439
2120009	METER, PRECISION LCR	QUADTECH INC	1420 PRECISION LCR	4156030	JS-15	1001A	\$ 5,020
2145277	TESTER, MICRO HARDNESS	STRUERS INC	DURAMIN A-300	5640018	JS-15	1002B	\$ 58,514
2145278	SYSTEM, THERMOJET TEMP CYCLING	FTS SYSTEMS INC	THJ80120	25082	JS-15	1001	\$ 32,825

2145279	TESTER, COMPUTERIZED LOAD FRAM	MTS SYSTEMS CORP	QTEST/50LP	M10167205	JS-15	1002	\$ 30,575
75376	PRINTER, ADP	HEWLETT-PACKARD CO	33440A	15741	JS-36	1003A	\$ 1,672
1003559	HEIGHT GAGE MICROHITE ELECTRON	BROWN AND SHARPE MFG CO	2J0777506	7.90014	JS-10	116A	\$ 14,203
1003668	MICROWATCHER SYSTEM	PHOTOVOLT CORP	VS30H	82MH1161	JS-10	116A	\$ 11,500
1003669	PRINTER, VIDEO	MITSUBISHI ELECTRIC CORP	CP10U	100886	JS-10	116A	\$ 1,599
1007564	PRINTER, ADP	HEWLETT-PACKARD CO	33449A	3044J77274	JS-10	CAGE	\$ 1,420
1007984	MICROWATCHER SYSTEM	PHOTOVOLT CORP	VS30H	82MH0820	JS-10	138	\$ 11,500
1118441	PRINTER, ADP	HEWLETT-PACKARD CO	33449A	3104JD3898	JS-222	MODEL	\$ 1,696
1119355	PRINTER, ADP	PRINTRONIX INC	P6280L	124599	JS-45	243E	\$ 8,454
1168290	PRINTER, ADP	HEWLETT-PACKARD CO	33449A	3221A86120	JS-45	448G	\$ 1,385
1168298	PRINTER, ADP	HEWLETT-PACKARD CO	33449A	3221A86021	JS-45	211C	\$ 1,385
1235200	PRINTER, ADP	EPSON AMERICA INC	P18MA	0FG0010931	JS-49	2300	\$ 739
1293584	DISPLAY UNIT	NEC ELECTRONICS USA INC	JC1404HMA	96K23685M	JS-13	HIBAY	\$ 649
1445981	PRINTER, ADP	HEWLETT-PACKARD CO	C3982A	USCB037923	JS- 920N	3339	\$ 860
1447723	COMPUTER, MICRO	M & A TECHNOLOGY INC	MANDA CXP150+	2887	JS-10	116	\$ 1,314
1457163	PARTICLE UNIT	ECONOSPECT CORP	WH2500	912697	JS-10	110	\$ 7,650
1457173	FIBERSCOPE, FLEXIBLE	OLYMPUS AMERICA INC	IF8D4-20	NONE	JS-10	138	\$ 10,431
1457175	TESTER ULTRASONIC	HITACHI INSTRUMENTS INC	DT2000	286	JS-10	138	\$ 8,900
1457176	GAGE, ELECTRONIC THICKNESS	PANAMETRICS INC	26DL	910186505	JS-10	138	\$ 6,000
1457244	CAMERA, STILL PICTURE	HITACHI DENSHI LTD	VK-C350	90900759	JS-10	138	\$ 2,930

1542940	CAMERA- RECORDING, VIDEO MACHINE	PANASONIC	GP-KR212	39B17213	JS-45	243	\$ 500
1546171	COORDINATE MEASURING	BROWN AND SHARPE MFG CO	9129	1094-438	JS-10	116A	\$ 153,719
1546172	COMPUTER, MICRO	AST RESEARCH INC.	543W	A05202946	JS-10	CAGE	\$ 1,895
1546174	CONTROLLER, RETRO	BROWN AND SHARPE MFG CO	S32CS	177506/25	JS-10	116A	\$ 18,600
1549238	COMPUTER, MICRO	RAYNOR COMPUTER SERVICE INC	B260	304838	JS-16A	1012	\$ 1,838
1603976	CAMERA, DIGITAL STILL	SONY CORP	MVC-FD7	36252	JS- 920N	3339	\$ 733
1604063	COMPUTER, ELECTRONIC NOTEBOOK	APPLE COMPUTER INC	H0149	JE72510T9BU	JS-45	211BA	\$ 1,071
1604064	COMPUTER, PALMTOP	HEWLETT-PACKARD CO	HP320LX	SG74203143	JS-45	211BA	\$ 546
1606340	FIBERSCOPE, INDUSTRIAL	OLYMPUS OPTICAL CO LTD	IF2D5-12	1600172	JS-10	138	\$ 8,188
1618057	SWITCH, 50 VPN DEVICE	NETSCREEN TECHNOLOGIES	NS-050-001	1.9112E+14	JS-45	528	\$ 5,267
1650596	SERVER, ADP	DELL COMPUTER CORP F-PC'S LTD	SMP01	2CXDH31	JS-46	300	\$ 6,339
1650741	SERVER, ADP	DELL COMPUTER CORP F-PC'S LTD	SMP01	FCXDH31	JS-46	300	\$ 6,339
1653476	CAMERA SYSTEM, DIGITAL	OLYMPUS OPTICAL CO LTD	E10	1080806	JS-10	138	\$ 1,800
1735911	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04090	JS-16	277	\$ 1,400
1735913	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03368	JS-44	244	\$ 1,400
1846726	DISPLAY UNIT	PANASONIC	E21	FA6630167	JS-45	422B	\$ 1,421
1846727	DISPLAY UNIT	PANASONIC	E21	FA6630774	JS-17	2070	\$ 1,421
1846728	DISPLAY UNIT	PANASONIC	E21	FA6630777	JS-10	116A	\$ 1,421
1846729	DISPLAY UNIT	PANASONIC	E21	FA6630779	JS-17	2063A	\$ 1,421
1846730	DISPLAY UNIT	PANASONIC	E21	FA6630781	JS-9	143	\$ 1,421
1847919	COORDINATE MEAS. MACHINE, PORT	ROMER INC	SYSTEM6 2500	S6-1-533	JS-10	116A	\$ 98,200

1847920	COMPUTER, LAPTOP	NEC TECHNOLOGIES INC FRMLY NEC	PC6620-91803	317042666	JS-10	116A	\$ 14,500
1850097	COMPUTER, MICRO	M & A TECHNOLOGY INC	CXP200	75123	JS-49	2300	\$ 944
1854566	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	91TXM	2AAWEF705E034 76	JS-36	2030	\$ 1,400
1854567	COMPUTER, MICRO	M & A TECHNOLOGY INC	686	76258	JS-36	3028	\$ 1,446
1854945	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705104103	JS-36	2030	\$ 1,400
1854949	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705104204	JS-7A	245A	\$ 1,400
1854951	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705104097	JS-45	243D	\$ 1,400
1855742	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04190	JS-45	442C	\$ 1,400
1855744	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03587	JS-10	116A	\$ 1,400
1855746	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03336	JS-10	116A	\$ 1,400
1855748	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03327	JS-37	1209B	\$ 1,400
1855750	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03490	JS-32	109	\$ 1,400
1855752	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04176	JS-350	122	\$ 1,400
1855760	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04167	JS-45	243E	\$ 1,400
1855762	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03473	JS-45	211BA	\$ 1,400
1855764	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E03480	JS-36	2030	\$ 1,400
1913060	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04092	JS-10	CAGE	\$ 1,400
1913066	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04060	JS-33	113	\$ 1,400
1913072	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04608	JS-36	2030	\$ 1,400
1913074	DISPLAY UNIT	MITSUBISHI	TFW9105SKTKW	705E03464	JS-44	244	\$ 1,400

1913974	PRINTER, ADP	HEWLETT-PACKARD CO	C3917A	USKC294338	JS-16	277	\$ 1,454
1914925	SCANNER, ADP	FUJITSU LTD	M3099GX	6	JS-32	143	\$ 19,000
1919993	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF167465	JS-15	136	\$ 1,461
1919994	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF167464	JS-32	143	\$ 1,461
1919995	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF163848	JS-36	1006B	\$ 1,461
1919996	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF163483	JS-37	1209	\$ 1,461
1919998	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF167471	JS-45	211B	\$ 1,461
1919999	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF167466	JS-350	122	\$ 1,461
1920000	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF163499	JS-7A	245A	\$ 1,461
1920003	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USNC144717	JS-44	244	\$ 1,487
1922731	COMPUTER, MICRO PROJECTOR, CONTOUR	MICRON CORP OPTICAL GAGING PRODUCTS INC	SE440BX2P11450C R QL20	1625672-0012 Q1200557	JS-10 JS-10	CAGE 116A	\$ 10,600 \$ 38,605
1928741	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	TFW9105SKTKW	705E04552	JS-45	230	\$ 1,400
1929542	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEF192011	JS-17	163A	\$ 1,487
1929543	PRINTER, ADP	HEWLETT-PACKARD CO	C4121A	USEK090195	JS-45	249	\$ 1,487
1987387	DISPLAY UNIT DETECTOR, ULTRASONIC	MITSUBISHI ELECTRIC CORP KRAUTKRAMER BRANSON INC	TFW9105SKTKW USD15X	705E04098 34793-3846	JS-36 JS-10	2030 138	\$ 1,400 \$ 11,865
1995587	DISPLAY UNIT	MITSUBISHI ELECTRIC CORP	91TXM	2AAWEF705E033 63	JS-49	2300	\$ 1,400
1995723	COMPUTER, MICRO PROFILOMETER,	DELL COMPUTER CORP F-PC'S LTD MITUTOYO	530 SJ-400	GDFW01 320171	JS-10 JS-10	116A 116A	\$ 7,600 \$ 8,650

Contract NNJ06JE86C
RFP NNJ05106317R

Section J
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	SURFTEST								
2082209	MASTERSCAN FLAW DETECTOR	SONATEST	MASTERSCAN 340	3401537C	JS-10	138	\$ 7,646		
G099396	COMPUTER, MICRO	UNISYS CORP	T3146-00	382326783	JS-13	HIBAY	\$ 2,253		

ATTACHMENT J.7C LIST OF NASA PROVIDED ANALYSIS TOOLS

Below is a list of the primary analysis tools that S&MA provides. The list included below is not all-inclusive, but is representative of the tools provided by the Government.

SAPHIRE – Systems Analysis Programs for Hands-on Integrated Reliability Evaluations

ECTree – Event Sequence Tree

ASSAP – Galileo/Advanced System Safety Assessment Program

SEaCLIF – Systems Effects and Capability Losses from Inserted Failures

RMAT – Reliability and Maintainability Assessment Tool (RMAT)

RBDA – Reliability Block Diagram Analysis (RBDA)

Contract NNJ06JE86C

Section J

RFP NNJ05106317R

Modification 118

J.8 SAFETY AND HEALTH PLAN

Science Applications International Corporation (SAIC)



Safety and Health Plan

NASA Johnson Space Center Safety and Mission Assurance Support Services Contract

NAS NNJ06JE86C

Rev: December 23, 2009

2450 NASA Parkway, Houston, TX 77058

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Change and Review Record

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Foreword

Science Applications International Corporation (SAIC) submits this Safety and Health (S&H) Plan in support of the Johnson Space Center (JSC) Safety and Mission Assurance (S&MA) Support Services Contract (SSC). The material contained herein consists of SAIC policies and procedures tailored to the specific requirements of JSC and to the requirements of the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP). We have formatted this S&H Plan according to the requirements of DRD 09. S&H. After contract award, we will update this plan continuously to remain compatible with the operations of the contract, VPP elements, and JSC's specific requirements.

We have identified the risks to effectively implementing the SAIC Team's S&H Program, and initiated mitigation actions to ensure an effective program. We have identified these risks and our mitigation actions in Appendix B.

SAIC has a heritage of leadership and excellence in implementing effective and proactive S&H programs at JSC and other National Aeronautics and Space Administration (NASA) centers. Our approach to safety programs has evolved from years of successful program development and hands-on implementation experience in providing a formalized system to ensure we exceed regulatory compliance and provide for continuous improvement in processes and results. JSC-specific evidence of our success includes:

- 1) we have been an OSHA VPP Star site for more than 8 years;
- 2) we were the first contractor on JSC's site to be Star-certified;
- 3) a Teammember has been an OSHA VPP Star site at WSTF for more than 4 years;
- 4) OSHA Region VI recognized our sustained performance level when they awarded us the "Star Among Stars-Star" title in 2001, for performance at levels below 50% of the national incidence rate average for our industry group; and
- 5) we were then recognized as "Star Among Stars-Super Star" in 2002, 2003, and 2004 for performance at levels 75% below the industry incidence rate average. From 2005 through 2008, SAIC has been awarded the "Star of Excellence" award. For 2009 SAIC earned the Region VI Star Among Stars "Star" award.
- 6) as of July 26, 2009, SAIC has completed more than 8 years without a Days Away Restricted Time mishap at JSC.

SAIC is a proven leader in safety and health through its position as the Safety, and Mission Assurance (S&MA) contractor, chairing the Contractor Safety Forum for more than 7 years, and fostering active employee participation in contract and site-wide safety initiatives and activities. For example, SAIC Team employees were significant participants in JSC VPP certification and following re-certifications, have supported Safety and Total Health Day and Safety Fair planning and implementation, are members of the employee-based JSC Safety Action Team (JSAT), and have mentored other organizations in addressing VPP

tasks..

It is the SAIC Team management's intent to continue our high level of commitment and leadership to JSC and to our S&H program. We will continue to seek improvement in both our program and our implementation, using the four major elements of OSHA VPP as our baseline. SAIC managers and employees perform work-site analysis, including site-wide audits, hazards analyses, mishap investigations, industrial hygiene surveys, and report close calls at a rate well above other JSC organizations. We will control hazards using the design order of precedence and with procedures based on job hazards analysis, as well as chemical hygiene plans and hazardous material handling procedures. We establish a high level of emergency preparedness through building emergency action plans, annual drills, JSC-specific disaster and severe weather plans, and a contract contingency action plan. Our Management's actions during hurricane Ike quickly accounted for all employees and returned the contract to normal operations fully prepared to support NASA. We have also completed training of our first Harris County certified Community Emergency response Team consisting of approximately 30 employees. We also ensure that our managers and employees are aware of the hazards of their S&H positions and responsibilities through high-priority, position-specific safety and health training objectives detailed in each employee's training plan. The SAIC Team will bring this S&H performance heritage and exceptional level of experience to JSC's S&MA SSC.

Signatures and NASA Approvals

To demonstrate our management's commitment to safety, health, and environmental compliance, our program manager, Scott Simpson, has endorsed the following statement:

The purpose of this Safety and Health Plan is to ensure that the SAIC Team, NASA employees, associated contractors, as well as our customers, related equipment, and missions are protected. By implementing this plan, we will provide the SAIC Team employees with: operating procedures to protect themselves and related equipment and missions; processes to obtain necessary safety training and to report hazardous conditions; and information concerning employee rights and responsibilities regarding occupational safety and health.

As program manager, I assume full responsibility for establishing, implementing, and maintaining a comprehensive safety, health and environmental compliance program as approved by the customer. I will ensure this contract is performed by the SAIC Team in a manner consistent with federal, state, and local regulatory agencies, as well as NASA and OSHA standards, with the goal of avoiding loss of life, injury to personnel, property loss, mission failure, and test failure. I will specifically authorize S&MA SSC employees to stop work on a task or operation that they think could be dangerous, and I remind all S&MA SSC employees that they are held responsible for their actions.

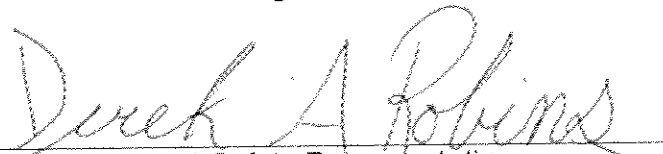
July 1, 2009

Date

Scott Simpson

To further demonstrate our management commitment to safety, health, and environmental compliance, our Contract Safety Representative, Derek Robins, has endorsed the following statement:

As Contract Safety Representative, I assume full responsibility for supporting the program manager and his management team in establishing, implementing, and maintaining a comprehensive safety, health, and environmental compliance program as approved by the customer. I will assist in implementing and assessing this program to ensure the SAIC Team performs this contract in a manner consistent with federal, state, and local regulatory agencies and according to NASA and OSHA standards, with the goal of avoiding loss of life, injury to personnel, property loss, mission failure, and test failure. I will support S&MA SSC employees in assessing and controlling hazards in operations that they think could be dangerous. I will interface closely with JSC's Safety and Test Operations Division, the Occupational Health and Test Support Office, and the Environmental Management Office to ensure coordinated and integrated efforts.



SAIC Contract Safety Representative
Derek A. Robins, CSP, CFPS

September 29, 2005

Date

December 22, 2009 Date

NASA Approvals:

NASA Contracting Officer's Date Technical Representative (COTR)

JSC Safety and Test Operations Division Date

JSC Occupational Health Officer Date

NASA Contracting Officer (CO) Date

Preface

This Safety and Health (S&H) Plan has been abbreviated from the complete version to be submitted to the JSC Safety and Test Operations Division for approval after contract start. Throughout this plan, we make references to procedures that we have not included in this plan because of the amount of information that would be required to be added. However, we have provided a description of each of these procedures in paragraph 3.3.4 and Appendix C, Paragraph C.3, which contains a list of the full set of procedures that will be included in detail in the final SAIC Team S&H Plan.

We also will submit proposed changes to this plan to the contract safety representative, who will assess the proposed change, coordinate with JSC's Safety and Test Operations Division, and present his or her results or rationale to the SAIC Team Safety Committee. The committee will take its recommendation to the program manager for final disposition.

This plan provides the SAIC Team Safety and Health Program policies, procedures, and techniques that will be used to ensure the safety and occupational health of contractor employees and to ensure the safety of all working conditions throughout the performance of the contract. The S&H Plan (in accord with FAR 52.223-1 through 5, and -10; NFS 18-23.70, 18-52.223-70, 18-52.223-73; and the NASA Agency Safety Initiative) regards public safety as our highest priority, followed closely by the safety of NASA's astronauts and pilots, who are exposed to a high level of risk during flight operations. Our plan places a high priority on the safety of the NASA work force, other contractors, high-value equipment, the environment, and property associated with space flight and related ground operations. We have defined a management structure and assigned responsibilities for all employees to ensure accountability.

As part of our continuous improvement process, the contract safety representative will review this plan annually, using the four major elements from OSHA's VPP guidelines, and coordinate changes and rationale, documenting them with the JSC Safety and Test Operations Division for approval.

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Cross-Reference Matrix

DRD 09, Safety and Health Plan	SAIC Team Safety and Health Plan
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1.1 Policy	1.1 Policy
1.2 Goals and Objectives	1.2 Goals and Objectives
1.2.1 Specific Safety and Health Goals and Objectives	1.2.1 Specific Safety and Health Goals and Objectives
1.2.2 Methods Used to Improve	1.2.2 Continuous Improvement
1.3 Management Leadership	1.3 Management Leadership
1.4 Employee Involvement	1.4 Employee Involvement
1.5 Assignment of Responsibility	1.5 Assignment of Responsibility
1.5.1 Safety Representative	1.5.1 Safety Representative
1.5.2 Company Physician	1.5.2 Company Physician
1.5.3 Building Fire Wardens	1.5.3 Building Fire Wardens
1.5.4 Designated Safety Official	1.5.4 Designated Safety Official
	1.5.5 Program Manager
	1.5.6 Managers and Supervisors/Section Leads
	1.5.7 Human Resources
	1.5.8 Employee Responsibilities
	1.5.9 Contract Safety Committee
1.6 Provision of Authority	1.6 Provision of Authority
	1.6.1 Safety, Health, and Environmental Variance
1.7 Accountability	1.7 Accountability
	1.7.1 Manager Accountability
	1.7.2 Employee Accountability
	1.7.3 Employee Motivation
1.8 Program Evaluation	1.8 Program Evaluation
1.8.1 Reserved	1.8.1 Reserved
1.8.2 Written Self Evaluation	1.8.2 Self-Evaluation
	1.8.3 SAIC Performance Measures
1.9 Miscellaneous Reports	1.9 Miscellaneous Reports
1.9.1 Roster of Terminated Employees	1.9.1 Roster of Terminated Employees
1.9.2 Material Safety Data Sheets	1.9.2 Material Safety Data Sheets
1.9.3 Hazardous Materials Inventory	1.9.3 Hazardous Materials Inventory
1.10 Government Access to Safety and Health Program Documentation	1.10 Government Access to Safety and Health Program Documentation
1.11 Review and Modification of Safety Requirements	1.11 Safety Requirements Review
1.12 Procurement	1.12 Procurement and Contract Safety
1.13 Certified Professional Resources	1.13 Certified Professional Resources
2.0 Worksite Analysis	2.0 Workplace Analysis
2.1 Analysis of Worksite Hazards	2.1 Analysis of Worksite Hazards
2.2 Industrial Hygiene	2.2 Industrial Hygiene
2.3 Hazard Identification	2.3 Hazard Identification
2.3.1 Comprehensive Survey	2.3.1 Comprehensive Survey
2.3.2 Change (Pre-Use) Analysis	2.3.2 Change Analysis
2.3.3 Hazard Analysis	2.3.3 Hazard Analysis and Control
2.3.4 Flow of Findings	2.3.4 Flow of Findings
2.4 Inspections	2.4 Inspections and Audits
	2.4.1 Routine Inspections
2.5 Protective Equipment	2.5 Personal Protective Equipment
2.6 Employee Reports of Hazards	2.6 Employee Reports of Hazards

DRD 09, Safety and Health Plan	SAIC Team Safety and Health Plan
2.7 Accident and Record Analysis	2.7 Mishaps and Record Analysis
2.7.1 Mishap Investigation	2.7.1 Mishap Investigation
2.7.2 Trend Analysis	2.7.2 Trend Analysis
3.0 Hazard Prevention and Control	3.0 Hazard Prevention and Control
3.1 Hazard Control	3.1 Hazard Control
3.2 Appropriate Controls	3.2 Appropriate Controls
3.3 Hazardous Operations and Processes	3.3 Hazardous Operations and Processes
3.4 Written Procedures	3.4 Written Procedures
3.5 Hazardous Operations Permits	3.5 Hazardous Operations Permits
3.6 Operations Involving Potential Asbestos Exposure	3.6 Operations Involving Potential Asbestos Exposure
3.7 Operations Involving Exposure to Toxic or Unhealthful Materials	3.7 Operations Involving Exposure to Toxic or Unhealthful Materials
3.8 Reserved	3.8 Reserved
3.9 Facilities Baseline Documentation	3.9 Facilities Baseline Documentation
3.10 Preventive Maintenance	3.10 Preventive Maintenance
3.11 Medical (Occupational Health) Program	3.11 Medical (Occupational Health) Program
3.12 Hazard Correction Tracking	3.12 Hazard Correction Tracking
3.12.1 Personnel Awareness of Hazards	3.12.1 Personnel Awareness of Hazards
3.12.2 Interim and Final Abatement Plans	3.12.2 Interim and Final Abatement Plans
3.13 Disciplinary System	3.13 Disciplinary Policy and Procedures
3.14 Emergency Preparedness	3.14 Emergency Preparedness
4.0 Safety and Health Training	4.0 Safety and Health Training
4.1 Describe Training Program	4.1 General Program
4.2 Approach to Identifying Training Needs	4.2 Training Needs Assessment
4.3 Use and Care of PPE	4.3 Personal Protective Equipment
4.4 Specific Audiences	4.4 Manager, Supervisor, and Employee Safety, Health, and Environmental Training
4.5 Training Retained and Practiced/Certification	4.5 Training Certifications
4.6 Utilization of JSC S&H Training Resources	4.6 Utilization of JSC S&H Training Resources
4.7 Training Materials and Records Available to NASA to Review	4.7 Training Materials and Records Available to NASA to Review

ORD 08 Safety and Health Plan	SAIC Team Safety and Health Plan
2.5 Accident and Record Analysis	2.5 Mishaps and Record Analysis
2.5.1 Mishap Investigation	2.5.1 Mishap Investigation
2.5.2 Trend Analysis	2.5.2 Trend Analysis
3.0 Hazard Prevention and Control	3.0 Hazard Prevention and Control
3.1 Appropriate Controls	3.1 Appropriate Controls
	3.1.1 Corrective Actions
	3.1.2 Hazard Control
3.2 Hazardous Operations and Processes	3.2 Hazardous Operations and Processes
3.3 Written Procedures	3.3 Written Procedures
	3.3.1 Personnel Certification
	3.3.2 Notification
	3.3.3 Space Systems and Test Safety
	3.3.4 Explosive and Solid Propellant Safety
3.4 Hazardous Operations Permits	3.4 Hazardous Operations Permits
3.5 Operations Involving Potential Asbestos Exposure	3.5 Operations Involving Potential Asbestos Exposure
3.6 Operations Involving Exposure to Toxic or Unhealthful Materials	3.6 Operations Involving Exposure to Toxic or Unhealthful Materials
3.7 Environmental Operations and Activities	3.7 Environmental Operations and Activities
3.7.1 Operations Involving Hazardous Waste	3.7.1 Operations Involving Hazardous Waste
3.7.2 Operations Involving New or Modified Emissions and Discharges to the Environment	3.7.2 Operations Involving New or Modified Emissions and Discharges to the Environment
3.8 Facilities Baseline Documentation	3.7.3 Pollution Prevention and Waste Minimization
3.9 Preventive Maintenance	3.8 Facilities Baseline Documentation
	3.9 Preventive Maintenance
	3.9.1 General
	3.9.2 Responsibilities
	3.9.3 Requirements
	3.9.4 Records
3.10 Medical (Occupational Health) Program	3.10 Medical (Occupational Health) Program
	3.10.1 Purpose
	3.10.2 CPR, First Aid, Emergency Response
	3.10.3 Return-to-Work
3.11 Hazard Correction Tracking	3.11 Hazard Correction Tracking
3.11.1 Personnel Awareness of Hazards	3.11.1 Personnel Awareness of Hazards
3.12 Disciplinary Policy and Procedures	3.11.2 Interim and Final Abatement Plans
3.13 Emergency Preparedness	3.12 Disciplinary Policy and Procedures
	3.13 Emergency Preparedness
	3.13.1 Emergency Preparedness
	3.13.2 Emergency Reporting
	3.13.3 Emergency Evacuation
	3.13.4 Employee Education and Drills
	3.13.5 Responsibilities
4.0 Safety and Health Training	4.0 Safety and Health Training
	4.1 General
	4.2 Training Records
	4.3 Training Certifications
	4.4 Personal Protective Equipment
	4.5 Manager, Supervisor, and Employee Safety, Health, and Environmental Training

1. Management Leadership and Employee Participation

The SAIC Team's management provides the leadership to ensure a safe and healthful work place for all employees, and to maintain an effective occupational safety and health program. Any safety or health incident, whether on the job or elsewhere, affects both the employee and our NASA customer. Therefore, a comprehensive safety and health compliance program, which includes both work site and off-the-job safety and health is required to ensure that the SAIC Team and our subcontractors provide safe, uninterrupted, quality service safely to JSC. The SAIC Team's policies on safety, quality, and health issues flow down to our subcontractors. All team members operate under this SAIC Team S&H Plan.

The SAIC Team's management commitment is to meet or exceed all applicable regulations of federal agencies, as well as state and local agency laws, rules, and regulations for safety, health, and environmental compliance. We have tailored our S&H Plan from our corporate environmental , health and safety (EH&S) plan to meet JSC goals and requirements in accordance with the S&MA SSC, and with JSC policies, processes, and procedures.

All policies, procedures, and requirements contained within this S&H Plan are consistent and supportive of NASA and OSHA policies and requirements. We will disseminate this plan to all S&MA SSC employees, including subcontractors, temporary employees, visitors, and guests.

1.1 Policy

It is the policy of the SAIC Team to take every reasonable precaution to protect the health and safety of our employees, customers, the public, and the environment. To this end, the SAIC Team complies with the JSC safety policy and subscribes to the following in conducting business activities:

- All mishaps are preventable by integrating effective safety- and health-control policies and practices into day-to-day operations and the overall management of our business
- Employees will be trained to identify, evaluate, and control safety, health, and environmental hazards to protect themselves, other workers, and property. All workers are required to follow safety, health, and environmental policies and procedures
- Managers will audit and review safety performance in the working environment and take corrective action to ensure compliance with company policies, goals, and objectives
- Managers, team members, and/or employees are responsible for their safety and the safety of others in the workplace. Everyone is responsible for completing safety and health training and following safety and health policies and procedures at all times
 - Working safely is a condition of employment

- The safety and health of employees takes precedence over productivity; this constitutes good business practice and prevents human suffering.

1.1.1 Scope and Reference

The S&MA SSC S&H Plan applies to all S&MA SSC employees, team members, and subcontractors working in S&MA SSC Houston facilities and other locations, including WSTF and Kennedy Space Center (KSC). SAIC and team member employees working on the S&MA SSC contract are expected to follow this plan, which complies with OSHA and customer safety and health procedures. Focused primarily on our workplaces, this plan also addresses the same principles for off-the-job safety and health. The documents listed in Appendix C provide provisions referenced in this plan that apply to the S&MA SSC S&H Program.

1.2 Goals and Objectives

1.2.1 Safety and Health Goals and Objectives

The goal of this S&H Plan is to provide a safe and healthy work environment for employees working under the S&MA SSC. Management will track our progress against these goals and objectives through performance measures and will communicate progress at technical management reviews, staff meetings, and through employee communications. In addition, the SAIC Team is committed to helping JSC achieve their safety and health goals by:

- Achieving zero Days Away Restricted Time Mishaps
- Abiding by and, where appropriate, assisting with the implementation and development of JSC and NASA requirements for S&H policies and processes
- Supporting and assisting JSC efforts to comply with OSHA's VPP Star work-site requirements
- Supporting and implementing annual S&H goals and objectives established by JSC.

The program manager will establish specific, performance-related S&H goals and objectives annually. The SAIC Team will use metrics to assess progress in attaining goals and objectives. Leading indicators (warning signs) and trailing indicators (outcomes) will include: OSHA injury frequency and severity rates; property damage incidents and costs; hazard and close call reporting; S&H training completion status; inspection and audit completion and finding closure status; job hazard and job safety analysis completion status; safety observations results; and VPP element implementation assessments. We will present these measures in monthly contract management meetings and will support contract performance reporting to NASA. Also see Paragraph 1.8.3.1 "Safety and Health Performance Measures." These metrics will assess and report the overall effectiveness of the S&H Plan. Additional information on this topic is contained in SAIC Procedure S6, Safety and Health Program Metrics.

1.2.2 Continuous Improvement

SAIC 1.2.2.2 Affirmative Procurement

The SAIC Team will comply with the affirmative procurement executive order by purchasing environmentally friendly materials, which we will accomplish through management and procurement training on environmental considerations, periodic auditing of material purchases by the safety representative, and close coordination with JSC environmental management.

1.2.2.3 Hazardous Materials Handling/Purchasing/Reduction/Replacement

The SAIC Team's goal is to minimize hazardous materials usage. We will accomplish this by assessing all processes using hazardous materials and eliminating, substituting, or reducing the use of hazardous materials. Where required, we will develop and strictly enforce hazardous material handling procedures. When purchasing hazardous materials, we will follow applicable procedures of this plan, including pre-approval, substitution, and reduction (quantity limits) assessment requirements, in addition to proper handling, storage, and HAZCOM considerations. We will develop metrics to measure the SAIC Team's use of hazardous materials and our progress in reducing their use.

1.2.2.4 Elimination from Specifications and Standards—Hazardous/Toxic Substances and Materials

The SAIC Team's goal is to minimize the use of hazardous/toxic substances and materials. To this end, we will assess the specifications and standards associated with SOW tasks for these materials and will work toward their elimination.

1.2.2.5 Use of Environmental Planning Checklists

The SAIC Team will use environmental planning checklists to review and document the effects of new and modified programs, projects, activities, and operations. Our environmental safety and health approach includes proactive pre-use analyses, which involve identifying impacts to safety, health, and the environment. We will use a structured approach to assess new or modified programs, projects, activities, and operations, which will include environmental planning checklists such as that depicted in Appendix G or as defined by the JSC Environmental Office.

1.2.2.6 Life-Cycle Analysis and Costing

As programs are developed and material and process decisions made, the SAIC Team will include the total life cycle in cost development. This will include handling, storage, emergency (spill response) preparedness, disposal, and recycling cost considerations in all decision making.

1.2.2.7 Incorporating Environmental Requirements in Subcontracts

We will flow environmental goals, objectives, and standards of the SAIC Team

and the S&MA SSC into all subcontracts. Performance evaluation criteria will include measures of compliance against these and provisions for action in the event of poor performance.

1.2.2.8 Participation in JSC Recycling

The SAIC Team will participate in JSC recycling programs. In addition, we will use employee awareness and participation to reduce the need for paper recycling by conducting green meetings, encouraging the use of e-mail, electronic draft reviews, and two-sided documents; and encouraging and implementing employee suggestions.

1.2.2.9 Outreach Programs

The SAIC Team will share its environmental management programs, successes, and knowledge with other JSC contractors, employees, and the community. We will participate in JSC Environmental Stewardship Committee discussions. We will proactively plan awareness campaigns annually and participate in environmental events throughout the year. We will encourage employees to use hazardous waste collection events, green yard care, and other pollution prevention strategies through general awareness and promotion of specific programs such as ride share, TCEQ Yard Wise, and Texas Recycles Day. The SAIC Team will also contact community governments and schools for potential outreach opportunities.

1.3 Management Leadership

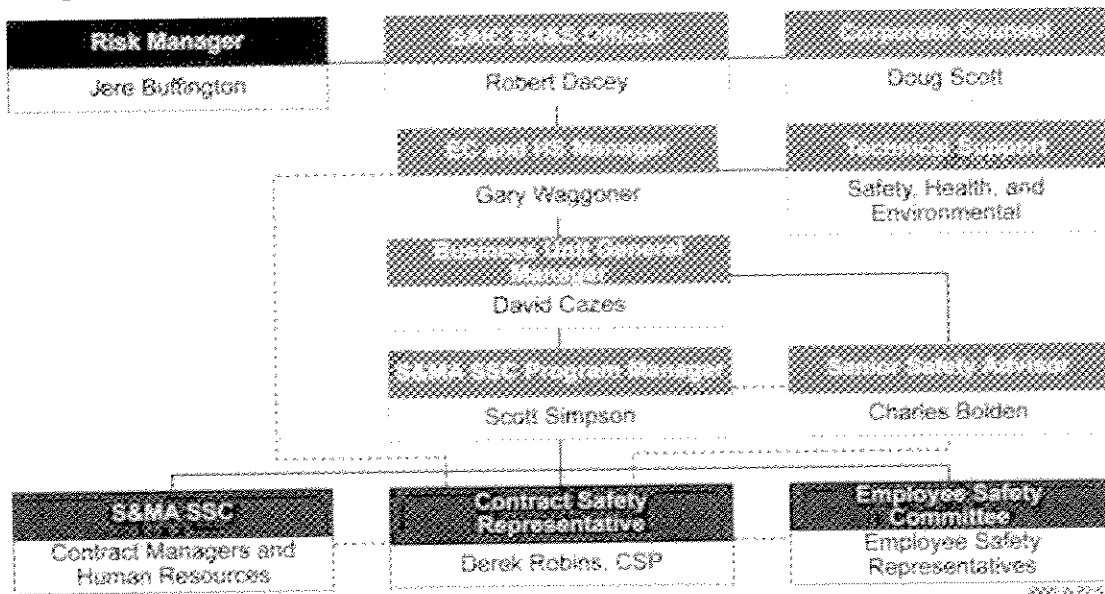
SAIC Team managers will provide visible management leadership essential for attaining our safety and health goals and objectives. The SAIC Team will assign responsibilities in writing, in accordance with Paragraph 1.5, and clearly communicate S&H performance expectations to all employees. This S&H Plan provides a clearly written safety policy fully endorsed by the program manager. We will communicate the policy to all employees during safety committee meetings, all-hands meetings, and as part of the safety orientation training for contract employees. The safety policy reflects SAIC Team beliefs, principles, and the specific JSC requirements. We will continuously measure and review progress toward our goals and make corrections, as necessary, at all contract levels. The SAIC Team will address emerging safety issues through management and employee-led safety committees.

The program manager is responsible and accountable for the contract safety program, but will delegate oversight to the contract safety representative (CSR). The CSR is a qualified safety professional responsible for the management of contract safety reporting and day-to-day safety administration tasks. The CSR will assist with program planning, hazard identification, evaluation, and control; procedure development and review; record keeping; and overall monitoring of the S&H Plan. Paragraph 1.5 details specific tasks assigned to this individual.

Management is ultimately responsible for the safety and health of their

employees, workspaces, and equipment. The CSR, who will report directly to the program manager, will advise the management team. Management will solicit volunteers from their areas to serve as safety representatives who will assist managers with safety audits, mishap investigations, and training, and serve as representatives on the Contract Safety Committee. These representatives also will assist the CSR with S&H functions and contract-wide activities. Our senior safety specialist will act as a liaison with other industries and organizations to benchmark best practices and help identify new technologies and changing priorities. The senior safety specialist will also act as a S&H ombudsman for S&MA SSC employees. The human resources department will support the program manager, CSR and employees in administration of workers compensation insurance, case management, and coordination of benefits and services between the insurance carrier and the employee.

Figure 1-1 displays the relationship among the various leaders.



1.3.1 Management Commitment

SAIC Team management will take an active role and set a positive example. SAIC has established this written plan to serve as the foundation on which we will ensure the integration of all OSHA VPP and NASA JSC functional elements. The SAIC program manager and CSR have signed written commitment statements at this plan's beginning. SAIC Team managers must actively demonstrate their concern for all S&H aspects. This commitment will ensure that all employees understand that the SAIC Team considers S&H to be a fundamental value with priority equal to or greater than other objectives. When management assigns top priority to S&H programs and procedures, others in the organization will follow. Appendix F contains the *VPP Manager's Implementation Guide*, which provides information on VPP element implementation and documentation. Management will demonstrate commitment through visible

involvement and by performing the following:

- Work site visits - Identify workers' operational at-risk and positive behaviors; use positive reinforcement to change behaviors that are unsafe or may increase risk
 - Compliment safe work practices
 - Discuss safety and health issues with supervisors/section leads and workers
 - Correct hazardous conditions and practices
- Formal inspections - Perform S&H inspections - Accompany safety and health inspection teams - Ensure that action is taken to correct deficiencies.
- Be accessible to employees; managers must be accessible to employees in order to address any S&H-related questions and issues - Take time during walkarounds and/or safety inspections to talk with employees about S&H issues - Establish an "open door" policy that allows employees to express concerns and discuss S&H issues without fear of reprisal - Listen and respond appropriately to employee concerns - Conduct periodic informal meetings between management and small employee groups to discuss and resolve S&H issues; a different group of managers and employees should participate at each meeting so everyone at the work site becomes involved
- Managers at all levels must set the example - Know, understand, and comply with safety rules and requirements - Communicate frequently on safety and health issues and include safety and health topics in meetings or talks with internal and external groups - Ensure that subordinates know, understand, and comply with the S&H program - Take charge, becoming actively involved in site safety and health committees and other S&H-related activities
 - Encourage employees to participate in S&H activities by providing systems for employee input and assistance in identifying and resolving safety and health problems. This includes the safety committee, hazard analysis, audit/inspection, mishap investigation, safety suggestions, incentive and reward program, and S&H working groups participation.
 - Ensure the safety of employees and facilities in preparation for and during emergency response such as evacuations, severe weather, etc.
 -

1.3.2 Coordination

Because work on the S&MA SSC is conducted in an environment featuring close contact and working relationships among SAIC Team employees, other contractor employees, and NASA staff, an effective S&H program also requires timely and effective coordination with other involved organizations. These relationships also promote mutual safety support during multi-contractor, joint, or integrated operations. We will establish an informal exchange program to provide a means to share S&H information in an effective and consistent manner among the contractors with which the SAIC Team interfaces. The CSR will also participate in JSC Contractor Affairs Safety Committee (CASC) and Contractor

Safety Forum (CSF) meetings. The CSR will be the primary point of contact for S&H at JSC.

1.4 Employee Involvement

All employees will adhere to the S&H Plan. Employee participation will ensure that individuals are involved in identifying hazards; recommending and monitoring hazard controls; and participating in the development, execution, and success of our program. Employees are trained to identify hazards and to participate in inspections and audits, surveys, and program reviews. We will ensure and encourage communication between managers and employees regarding safety issues by establishing an environment of open and non-repercussive communication among managers, employees, and safety representatives. We will authorize, encourage, and empower our employees to stop work activities they think may pose serious safety or health hazards. Off-the-job safety of our employees also factors into their overall health and safety and into the success of our S&H Plan. When employees concentrate on safety on the job, they will take such values home with them. Components of our employee involvement activities that encourage this behavior include the following:

- Participating as employee safety representatives
- Participating as employee fire wardens
- Participating in safety and health audits
- Performing job hazard analysis, hazardous operations assessments, procedure assessments, and operational readiness reviews
- Participating as members of the Contract Safety Committee and subcommittees
- Participating on the JSC Safety Action Team
- Participating in Contract Safety Committee meetings
- Volunteering to plan and conduct site-level S&H activities
- Participating in mishap and close-call investigations and providing input on hazard corrective actions
- Providing safety and health input to our program and sharing safety information sources
- Identifying hazards through the Close-Call Reporting System or directly to management
- Participating in community outreach activities such as the Spring Safety Fair, cardiopulmonary resuscitation/automated external defibrillator (CPR/AED) training, JSC's Safety and Health Day, and other JSC-sponsored safety events and activities
- Participating in off-the-job S&H activities
- Having their families and children participate in the safety calendar contest, home evacuation plan drawings, and home safety programs
- Developing creative themes and methods of communicating the message to employees regarding on- and off-the-job safety. For example, safety and health mini-fairs and wellness events.

Employee involvement will start with clearly defined employee responsibilities identified at the time of hire and discussed in our safety policies and procedures. We will encourage employees to interface with management to better understand and participate in the program. We will foster this by encouraging employees to report hazards directly to their managers free of concern of reprisal, and by informing employees of their rights and responsibilities under OSHA.

1.5 Assignment of Responsibility

SAIC managers and supervisors/section leads who occupy positions of leadership and control statement of work activities are key to complying with safety and health initiatives. Their most important responsibility is to set the example for employees by personally demonstrating safe behavior and full support and compliance with safety policies and requirements. In addition, these managers are responsible for ensuring that employees are trained in safe work practices; that they understand the physical, health, and environmental hazards of assigned tasks; and that they are provided with and use proper protective equipment. Managers will monitor their areas continually for conditions or practices that could cause mishaps and take actions to correct them. Finally, managers are responsible for taking appropriate corrective and disciplinary actions when employees violate safety rules. Responsibilities for specific job titles are further outlined below.

1.5.1 Safety Representative

The CSR reports to the program manager and is a trained and knowledgeable safety professional with strong leadership ability. Responsibilities include:

- Supporting management in implementing the S&H Plan
- Providing day-to-day oversight of S&H activities
- Conducting and documenting employee training
- Ensuring that emergency plans and procedures are prepared and maintained
- Meeting fire department or emergency service representatives during drills and actual emergencies
- Ensuring that all hazardous materials and hazardous wastes are properly stored, used, and disposed of in accordance with this plan
- Interfacing with regulatory agencies
- Working with JSC occupational safety, health, medical, and environmental representatives; the Contract Safety Committee; and the program manager to identify S&H concerns and needs, as well as programs or actions to mitigate the concerns
- Populate JSC HATS and IRIS systems as appropriate
- Providing feedback to the program manager concerning program status
- Maintaining copies of all forms identified in this plan
- Exercising authority and responsibility to take necessary action when

unsafe conditions are found to exist, including a determination to stop work

- Acting as a contract liaison between the SAIC Team and NASA representatives
- Assisting in the resolution of safety, health, environmental, and fire-protection concerns and goals at all SAIC Team workplaces
- Participating, when appropriate, in JSC S&H meetings, such as the Joint Management Council (Executive Safety Committee), Contractor Affairs Subcommittee, Environmental Stewardship committee, JSAT, and others related to JSC S&H programs
- Chair the Contract Safety Committee.

1.5.2 Company Physician

SAIC Team employees located on site will use the JSC Health Clinic (Building 8) for occupational health and emergency medical services. In the absence of an SAIC Team on-site company physician, the program manager and/or CSR will be the primary point of contact for communicating medical data from the JSC Clinic to corporate management. This contact information will be provided to the JSC Clinic in writing. For off-site employees, the Human Resource and Safety managers will work with the company's workers' compensation carrier for medical services. The closest hospitals for our employees are:

- Nassau Bay, Texas—Christus St. John Hospital, 18300 St. John Drive, telephone (281) 333-5503.
- Webster, Texas—Clear Lake Regional Medical Center, 500 Medical Center Boulevard, telephone (281) 332-2511

In cases of acute medical emergencies, onsite JSC S&MA SSC will call the site emergency response at x33333. Offsite JSC employees will call 9-911. For medical situations that are not acute, S&MA SSC management will assist employees in contacting the appropriate workers' compensation healthcare providers or their primary care provider.

1.5.3 Building Fire Wardens

The SAIC Team recognizes that JSC has highly qualified on-site fire and emergency services personnel. However, locally trained emergency personnel are essential for a comprehensive emergency preparedness program. Consequently, fire wardens will represent each section or floor of any building that employees occupy. The use of fire wardens will ensure we can accurately account for everyone in a specific area during a drill or emergency. We will provide a roster by letter to the JSC Safety and Test Operations Division, mail code NS2, with copies to the CO, and COTR that contains the names, telephone numbers, pager numbers, and mail codes of the fire wardens. The letter shall be sent no later than 15 days after contract start and at the start of each contract year

Fire wardens will be trained in accordance with JPR 1700.1. fire Warden responsibilities will include the following:

- Receiving JSC Safety Learning Center training in performing fire warden duties and in using fire extinguishers
- Helping managers maintain and familiarize employees with the Building Emergency Action Plan
- Identifying an alternate to serve in his/her absence
- Identifying escape routes and rendezvous locations for employees working in his/her section
- Leading employees in his/her area during evacuation drills and real emergencies
- Assisting managers with reporting any missing persons during an evacuation
- Completing the Fire Drill Accountability Checklist during each drill or emergency evacuation and maintaining an up-to-date accountability record.
- Ensuring all employees requiring evacuation assistance are assigned buddies and alternates to assist them with evacuation procedures during a drill or real emergency
- Attending fire warden meetings.

1.5.4 Designated Safety Official

The designated safety official is the Contract Safety Representative (CSR) also referred to as the Safety Manager. The CSR is the official responsible for day-to-day implementation of this plan and all formal contacts with regulatory agencies and with NASA.

1.5.5 Program Manager

Responsibilities of the program manager include the following:

- Coordinates with corporate management on the appointment of the individual to serve as the CSR
- Provides oversight for the development and implementation of S&H programs within the contract

- Delineates and documents S&H responsibility and accountability of subordinates
- Ensures that adequate resources are provided to meet the needs of the S&H programs
- Enforces S&H policies and procedures and ensures compliance with applicable local, state, and federal S&H regulations
- Ensures that all employees receive training as required by this policy
- Ensures that safety matters are properly communicated to subordinates and employees
- Ensures that S&H policies are proactively addressed in all new and current operations
- Is responsible for all formal contacts with regulatory agencies and NASA.

1.5.6 Managers and Supervisors/Section Leads

Responsibilities of managers and supervisors/section leads include the following:

- Actively participate in safety policy implementation and conduct activities within their areas in the manner that will prevent injury to personnel and damage to property or the environment
- Control the design, engineering, condition, and use of equipment, facilities, processes, methods, and procedures to eliminate or control hazards and minimize work-related losses
- Notify the CSR about hazardous operations
- Ensure that employees are trained in hazard recognition and the hazards of all JSC facilities and field sites
- Coordinate the development of hazardous-operation procedures with the CSR
- Maintain a clean and efficient area of operation and correct hazardous conditions and Practices
- Ensure that each subordinate employee understands safety responsibilities, is trained in safe procedures for accomplishing assigned work, practices safe work habits, and uses protective equipment or apparel as required
- Investigate mishaps and injuries and make required reports within specified time limits
- Ensure that employees report all hazards, mishaps, and injuries
- Review proposals for new and/or modified equipment, facilities, processes, methods, and procedures with the CSR before completing final plans
- Conduct periodic fire, environmental, safety, and health inspections of their areas and operations

- Ensure that employees are knowledgeable about emergency procedures, emergency action plans, and medical resources.

1.5.7 Human Resources Responsibilities

SAIC Team HR representatives are responsible for workers' compensation reporting and benefits coordination for their respective personnel. Specifically, Human Resources will:

- Promptly report injuries and illnesses to the workers' compensation insurance carrier as directed by SAIC Team Procedure 24 in coordination with the employee's manager and the CSR
- Coordinate appropriate physician care for the employee with the workers' compensation carrier
- Provide appropriate case management and return-to-work coordination between the employee, manager, insurance carrier, and physician to maintain a connection with the employee and to ensure their ability to work is understood.

1.5.8 Employee Responsibilities

The success of a safety program depends on employee attitudes and participation. Employees will take personal responsibility for their own safety and the safety of their colleagues. Specifically, employees will:

- Conduct their work in accordance with JSC and SAIC Team S&H policies and procedures, as well as any job instructions received
- Report to their immediate manager, safety representative, or CSR any S&H concerns (hazards) associated with their activities
- Promptly report all close calls, incidents, mishaps, and occupational injuries and illnesses as directed by procedures
- Participate with safety and health personnel during inspections, surveys, and investigations
- Use protective equipment (e.g., safety glasses, respirators, and machine guards) when prescribed and/or required by standards or good work practices or when directed by a manager
- Be an active participant in ensuring the safety of fellow employees, hardware, and facilities
- Participate in safety committees, attend required training, and assist with the correction of safety deficiencies.

1.5.9 Contract Safety Committee

The SAIC Team will form a Contract Safety Committee to foster employee involvement in the S&H Plan. We will hold monthly committee meetings, publish

an agenda beforehand, and generate minutes afterward for electronic distribution to all personnel. Additionally, we will post the minutes to the SAIC Team Web page, which may be viewed by anyone. This Web page will contain other safety information for employee review, such as audit results, mishap trends, and injury statistics. The committee will assess the safety status of the contract and discuss safety alerts, mishaps, close calls, hazardous conditions, lessons learned, or safety issues. Committee members will play a critical role in discussing employee issues, as well as disseminating safety and health information through their respective groups. The CSR will chair the committee. Membership will include employee representatives, management representatives (as appropriate), fire wardens, and representatives from JSC S&H offices (optional).

1.6 Provision of Authority

It is the policy of the SAIC Team to comply with all applicable S&H regulatory requirements. This plan, therefore, is fully complementary to, and compliant with, NASA's JSC Safety and Health Program as defined by JPR 1700.1, Johnson Space Center Safety and Health Handbook. Our plan also will meet and/or exceed all JSC, NASA, OSHA, Environmental Protection Agency, and other federal, state, and local regulations, including, but not limited to, the following:

- NPD 8710.2, NASA Safety and Health Program Policy
- ■ NPR 8715.1, NASA Safety and Health Handbook Occupational Safety and Health programs
- NPR 8715.3, NASA Safety Manual
- ■ JPR 1700.1, JSC Safety and Health Handbook: Policy, Requirements, Instructions, and Guidelines
- NPD 8621.1, NASA Management Instruction on Mishap Reporting and Investigating, Current Revision
- JSC 17773, Instructions for Preparation of Hazard Analysis for JSC Ground Operations
- JMI 8837.1, Disposal of Chemical, Toxic, and Hazardous Waste Materials
- Federal law as recorded in 29 CFR 1910 and 1926 and 40 CFR 1 through 799, Environmental Protection Rules.

The CSR and the program manager will review this plan at least annually, or as developments dictate, to ensure that changes in federal, state, and local regulations, as well as JSC S&H requirements, are reflected in programs, policies, and procedures. Corporate safety will support the CSR and program manager in this endeavor. Revisions to this plan will be resubmitted to JSC Safety and test operations Division/NS2 for approval and comment.

1.6.1 S&H Variance

The need for a variance to a safety requirement results from a situation where standard safety precautions and regulations do not permit accomplishment of, or unacceptably delay, a particular mission or operation. If departure from a safety requirement will not cause an unacceptable risk, the requesting organization will prepare a documented request for a variance. The program manager will approve safety variances that are internal to contract operations, approving any contract-related variances in accordance with the variance policy as stipulated in JPR 1700.1, Chapter 1.4.

1.7 Accountability

1.7.1 Management Accountability

All managers will be held accountable for meeting their S&H protection responsibilities. Authority and responsibility for S&H protection will be clearly defined in their performance plans. As part of every annual evaluation, the program manager will evaluate S&H protection performance. Manager performance standards are as follows:

- Program Manager - Attend required safety training - Define the organization's safety and health requirements and liabilities - Ensure compliance with all safety regulations that apply to the contract - Provide required safety training for employees and managers - Ensure employees have knowledge of specific hazards in their workplaces - Establish and communicate safety responsibilities to managers and employees - Provide ongoing review of manager's safety performance and provide feedback - Conduct formal performance assessments that include measures of safety performance
 - Take action to reduce personal injury or unsafe use of facilities and resources
 - Conduct periodic safety assessments - Ensure that mishaps are promptly and completely investigated - Ensure that corrective action is implemented immediately - Assign a contract safety representative - Provide adequate budget resources for safety, including personal protective equipment
 - Support the Contract Safety Committee.
- Managers and Supervisors/Section Leads - Attend required management safety and health training - Know and understand safety requirements and liabilities - Ensure that employees are aware of the hazards in their workplaces, understand needed safeguards, and are properly trained - Provide safety orientation for all new employees - Establish a work environment that meets health and safety regulations - Ensure that hazards are promptly identified and corrected - Conduct safety inspections at least monthly - Take action to reduce personal injury or unsafe use of resources - Discuss safety issues and concerns at staff and group meetings - Ensure that employee safety is represented on the Contract Safety Committee - Assign building and area fire wardens - Provide ongoing review of employees' safety performances with feedback and
 - coaching - Initiate disciplinary action for employee violations of safety and health procedures - Support the hazard analysis process by developing safety

procedures and job hazard analyses.

1.7.2 Employee Accountability

All employees will be held accountable for their own safety and the safety and health of their coworkers. Annual performance reviews for employees will also include measurements of safety performance. Employees will conduct themselves in a safe manner, adhering to all policies and procedures. They will, if required, wear safety articles and use any provided protective equipment. They will immediately report any injury, accident, or violation to their respective managers.

1.7.3 Employee Motivation

To encourage employee participation and personal accountability in the safety program, we will implement an awards program to recognize employees with performance awards for superior safety performance. Employees will receive recognition for outstanding support of the S&H Program by providing noteworthy contributions, identifying outstanding personal or team participation; recognizing significant S&H suggestions, willingness to participate in the hazard reporting and close-call program, and developing creative and informative activities. We recognize employees through the "Safety Not Sorry" Program for their safety actions and activities. We will use periodic contests, mini-fairs, drawings, quizzes, games, awareness campaigns, and motivational speaker activities to maintain employee safety and health motivation, awareness, and participation, which we will conduct for the benefit of team employees. Our off-the-job S&H Program will help our employees maintain their safety and health at home, in sports, while driving and maintain their emergency preparedness as well.

1.8 Program Evaluation

1.8.1 Surveys

The SAIC Team will complete periodic safety and health related surveys as one method to measure the effectiveness of the S&H program. SAIC will participate in surveys at the request of and in coordination with the government or as scheduled internally.

1.8.2 Reserved

1.8.3 Self-Evaluation

The SAIC Team will evaluate our S&H Program through an annual self-evaluation by September 30 of each year. We will conduct this self-evaluation using the guidelines of DRD 10, Safety and Health Program Evaluation. As an OSHA VPP Star site, the SAIC Team may submit the contract's VPP self-evaluation with the updated status of all action plans in lieu of writing a new self-evaluation. We will discuss the results of the evaluation with and distribute them through the contract safety committee and all managers and employees. The SAIC Team will focus on the areas of improvement and develop objectives for the next year. We will record actions assigned to meet these objectives in a

tracking log, and safety committee members will discuss the progress each month to maintain accountability.

1.8.3.1 S&H Performance Measurement

S&H performance is measured through program metrics, which include trailing and leading indicators of performance such as the occupational injury and illness metrics: the total case incidence rate (TCIR) and the days away restricted time rate (DART). **Figure 1-2** provides examples of leading indicators (warning signs), and trailing indicators (results), and the management process. These metrics also support the NASA performance measures identified for this area and provide data for contract reporting requirements identified in DRD 10, Safety and Health Program Evaluation, and DRD 11, Monthly Safety and Health Metrics.

1.9 Miscellaneous Reports

The CSR will identify, acquire, and maintain all pertinent safety and health data, such as procedures, close call/incident/mishap reports and logs, records, minutes of meetings, checklists, statistics, reports, analyses, and notes that pertain to safety and health processes or programs. The CSR will process and analyze the information to produce meaningful data and reports for NASA to comply with contract requirements or upon request. We will maintain these data so that the government and employees can access it. To support JSC in its efforts to meet VPP status requirements and to assist the SAIC Team in achieving our own goals, we will develop objective evidence, which will include the following information:

Metric	NASA Performance Standards*	Purpose	Management Process
Trailing Indicators – Results			
<ul style="list-style-type: none"> ● TCIR ● DART ● Property Damage Incidents/ Damage Dollars 	1, 2	Measure effectiveness of our approach to protect the public, NASA employees, SAIC Team employees, government and the SAIC Team, equipment, and property; provide for reporting of incidence rates	Performance Review and Cost Management. A primary element of our monthly performance review process used to assess effectiveness of our S&H programs, to direct the SAIC Team's internal corrective action, or to request assistance from NASA to correct hazards when necessary.
Leading Indicators – Warning Signals			
<ul style="list-style-type: none"> ● Close Call Reports 	1, 2, 3	Measure the number and category of near incidents and their status; indicate hazards present in the workplace and employee participation	Safety and Health Program Management. Used in the monthly performance review to determine trends, by management to initiate correction, and as an indication of employee involvement and alertness.
<ul style="list-style-type: none"> ● Training Completion Status 	1, 2, 3	Measure the percent completion of safety and health training for effected employees and groupings	Training Management. Used by individual managers to proactively manage training of their employees.
<ul style="list-style-type: none"> ● Audit Completion and Results 	1, 2, 3	Measure the completion of scheduled audits and safety discrepancies found in workplace audits	Safety and Health Program Management. Used by the Program Manager and his reports to identify audit effectiveness and high hazard locations. Reported to NASA in the BITS system, DRD-11, and when NASA assistance is needed to correct a condition.

● Audit Finding Closure Time	1, 2, 3	Measure the time hazards identified in audits remain open to assess the effectiveness of the SAIC Team and NASA's corrective actions	Corrective Action Management. Used by Program Manager and CSP to determine the effectiveness of the SAIC Team's corrective action.
● Job Safety Analysis Status/ Ergonomic Evaluations	1, 2, 3	Measure the percent and number of individual jobs for which a job safety analysis is not complete to assess how well we understand hazards in every job Ergonomic Evaluation conducted for new employees	Safety and Health Program Management. Used by the CSP and individual managers to identify hazards in each job and to redesign jobs, incorporate hazard mitigation/control, and train employees in hazard avoidance.
● Safety Leadership Activity	1, 2, 3	Measure the number and category of SH&E leadership events completed to assess leadership and mishap prevention in the workplace, including manager SH&E briefings, by management walking around tours, inspections, all hands briefs, contractor safety forums, holiday safety awareness actions, and back-in-the-saddle safety events	Safety and Health Program Management. Used in the monthly performance review to determine trends in SH&E leadership operations tempo, by management to initiate correction, by individual managers on a continual basis to manage continued leadership emphasis on safety for their assigned work forces and locations, and by employees and the employee safety committees for the same purpose.
● Annual Self Evaluation or PEP Results	1, 2, 3	Measure management and employee perceptions of primary elements of our S&H program to enable corrective actions	Performance Review and Safety and Health Management. Used to highlight areas of our S&H program that require improvement through implementation of "Get Well Plans."

- Tracking these items will ensure timely closeout of open items, data collection, metrics, and reporting. Contents of the database are defined to allow for the entry of data collected on currently used forms so that open items can be tracked until they are closed. In addition, the database will include data fields for a tracking number, entry date, point of contact, risk assessment code, status closure date, remarks, and OSHA 300 log number (if applicable). *InSITE*—All S&H reports and performance data will be available to managers, employees, and NASA on the InSITE system.

1.9.1 Roster of Terminated Employees

The program manager will provide a roster of terminated employees to the JSC Safety Occupational Health Office, Mail Code SD13, no later than 30 days after the end of each contract year or at the end of the contract. The business manager also will provide date of report, name of contractor, and contract number; the name, social security number, and date of termination for each person listed; and name, address, and telephone number of contractor point of contact for questions or other information.

1.9.2 Material Safety Data Sheets

To comply with JPR 1700.1, Chapter 602, Hazard Communication Requirements, and 29 CFR 1910.1200, OSHA's Hazard Communication Standard, the SAIC Team will obtain JSC pre-approval for chemical usage and will provide and maintain copies of all material safety data sheets for hazardous materials brought onto JSC and/or included in products delivered to the government. The SAIC Team will prepare and deliver one copy of each sheet, upon receipt, to JSC Central MSDS Repository, along with any information on

new or changed locations and/or quantities normally stored or used. The CSR will approve all chemical and hazardous material purchases to ensure compliance, attain JSC approval, and maintain an accurate hazardous material inventory (see Paragraph. 1.11). The SAIC Team also will initiate and maintain a hazard communication program, as outlined in Procedure 8.0, Hazard Communications and Hazardous Material Control.

1.9.3 Hazardous Material Inventory

On a quarterly basis the SAIC Team will provide JSC's Occupational medicine Occupational Health contractor, mail code SD33 an MC SD13, which is a hazardous material inventory statement of all hazardous materials used that are within the scope of 29 CFR 1910.1200, Hazard Communication, and Federal Standard 313 (or FED-STD-313), Material Safety Data, Transportation Data, and Disposal Data for Hazardous Materials Furnished to Government Activities, as revised. The SAIC Team will provide:

- (1) The identity of the material
- (2) The location of the material by building and room
- (3) The quantity of each type of material normally kept at each location
- (4) Peak quantity stored
- (5) Actual or estimated rate of annual usage of each chemical. We will maintain this inventory and provide it to NASA as requested.

1.10 Government Access to Safety and Health Program Documentation

Upon request, the SAIC Team will make available all safety and health documentation, including personnel records, to JSC or other governmental agencies for inspection or audit. We will support JSC's VPP efforts with management leadership, commitment, employee participation, workplace analysis, hazard control, and training data required by the OSHA VPP audit team. This documentation includes safety meeting minutes, procedures, statistics, checklists and reports.

1.11 Safety Requirements Review

At the direction of the contracting officer's technical representative, the SAIC Team will review specific standards identified under direct tasking in accordance with a task order documenting the request.

1.12 Procurement

This plan will be applicable to all employees and to those companies, firms, or individuals that may be subcontracted to SAIC. All suppliers of goods and services to this contract will be responsible for compliance with NASA, JSC, Environmental Protection Agency, OSHA, state, and local requirements and the referenced documents on which this safety and health plan is based. As part of the request for proposal process on work to be performed, we will require subcontractors to submit S&H performance documentation for evaluation as part of the selection process, including data on S&H awards, S&H citations, OSHA incidence rates, workers compensation modifiers, existing S&H programs and procedures, degree of employee involvement, and S&H training program. In addition, SAIC will flow down to subcontractors all contract S&H requirements.

SAIC will monitor subcontractors to ensure compliance with S&H requirements as part of the subcontractor performance evaluation process.

We will make every effort to ensure that all equipment and materials purchased for use on the contract meet applicable S&H requirements. The CSR has the responsibility and authority to participate in the procurement process and must approve or disapprove purchase requests based on potential S&H impact. The CSR is required to approve the purchase of any new equipment, furniture, or material to ensure that adequate safeguards are in place to prevent potential injuries and preclude any adverse S&H issues. SAIC provides a pre-use form to guide this process in Procedure 8. The CSR also will approve any new chemicals to be purchased or requested from JSC sources that are not on the chemical inventory list. The CSR will complete and approve a hazardous material/chemical request form (see Procedure 8) before purchasing or bringing any such materials on to the premises covered under the contract. We will use prudent practices, such as substitution and quantity limits, to curb potential employee and environmental exposure to hazardous chemicals and to limit hazardous waste management.

1.13 Certified Professional Resources

The SAIC Team has access to a full cadre of S&H professionals, including Certified Safety Professionals (CSP), Certified Fire Protection Specialists (CFPS) and Certified Industrial Hygienists (CIH). We have assigned the certified professional resources needed to perform at OSHA VPP levels and to meet JSC expectations for operating above mere compliance. The role of these safety professionals is to provide for day-to-day S&H Program planning, implementation and continuous improvement, support managers in their responsibility to implement the S&H Program, and recognize the need for expert assistance for both managers and employees. In addition, they motivate and increase awareness of contract employees by addressing trends and changes in the workplace with appropriate training and implementing awareness campaigns to ensure S&H concerns are addressed proactively. We assigned these resources to our management department to provide direct access to the program manager. Also available are other JSC-based SAIC Team safety professionals, workers compensation carrier technical assistance, and team corporate professional resources. The on-site JSC industrial hygiene contractor and the SAIC Team CSR perform industrial hygiene and health resources surveillance. We will ensure close coordination with JSC S&H Offices as resources.

2. Worksite Analysis

2.1 Analysis of Worksite Hazards

Classification and assessment of hazards and risk levels are cornerstones of the S&H program. The recognition and control of hazards before mishaps, close calls, or failures occur are prime objectives of job hazard analysis. Hazard recognition and control are not isolated steps; they are processes involving systematic research, observations, inspections, and analysis of the designs and operations as they evolve from the preliminary design phase to the final operational or disposal phase. Identification of the hazards related to operations, equipment, or facilities early in the life cycle facilitates proper design and controls. Hazard analysis and risk assessment will be the responsibility of the managers and supervisors/section leads of the affected area, supported by the CSR as required. The Receiving Inspection and Test Facility (RITF) is the contract facility with the greatest S&H risk because of the nature of its operations and will require greater management of and CSR attention to work site analysis. We will encourage the Contract Safety Committee and all employees to participate in the job hazard analysis process. All safety engineering products that address operations, equipment, and other activities on NASA property will be subject to JSC safety review and concurrence.

A job hazard analysis is composed of two distinct areas: hazard identification and hazard control. A hazard is the potential for doing harm, while risk is the evaluation of the hazard. Once hazards have been identified, it is necessary to rank them by assessing the severity and probability of their occurrence and identifying the resulting risk assessment code. Next, with more critical code items given priority, hazards are analyzed for cause(s) in an effort to develop a hazard-control strategy. We will perform hazard analysis, risk assessment, and assignment in accordance with JPR 1700.1 and Procedure S1, Hazard Analysis and Control. A sample job hazard analysis format that addresses S&H considerations is provided in Appendix I. We will report immediately to management, the CSR, and JSC any hazards identified as being immediately dangerous to life or health. We then will immediately take steps to minimize or prevent employees' exposure to the hazard, and will control the hazard to establish a safe condition.

2.2 Industrial Hygiene

We will implement a comprehensive industrial hygiene program to fulfill SAIC Team responsibilities to provide employees with a safe and healthful workplace. This program will include identification, evaluation, and control of chemical, biological, radiological, and physical agents through review and selective monitoring of processes, facility components, and systems that involve hazards such as asbestos, lead, formaldehyde, bloodborne pathogens, noise, heat stress, and repetitive physical stressors. The CSR, in coordination with JSC Occupational Health, will perform an initial baseline survey of SAIC Team-occupied spaces to identify occupational health hazards and to ensure that adequate controls are in place (see Paragraph 2.2.1).

In conjunction with JSC Occupational Health, the CSR will develop and implement an annual industrial hygiene sampling plan. This includes periodic assessments of ventilation systems, indoor air quality, lighting, radiological equipment, and area noise surveys. The CSR will coordinate with JSC Occupational Health to assess the results of air monitoring tests. We will perform ergonomic evaluations for employees who are at risk or who express concern or experience problems with their workstations. All new employees receive an ergonomic evaluation when assigned to an area. We will address ergonomics in the environmental safety and health orientation given to all new hires and in JSC office ergonomics training. In coordination with the health services contractor, we will train a group of employees to perform peer ergonomic evaluations on their team members.

We will perform a periodic noise survey to document background noise levels in all SAIC Team-occupied areas. If office space noise levels meet and/or exceed the generally accepted guideline of 70 db(A), we will determine its source and implement corrective actions. We will assess industrial areas to the 80 db(A) threshold level, the NASA directive for hearing conservation. If noise levels are noted in excess of this figure, we will determine what remedial action is needed and implement it quickly.

To assist with the control of identified hazards, the CSR will provide recommendations and consultation services for design, personal protective equipment, product substitution, and the use of exposure-reducing engineering controls, such as local exhaust ventilation systems and noise-reduction devices. The CSR will document OSHA-required programs and administer them in coordination with JSC for the provision of surveys and assessment. They include, Respiratory Protection Program; Confined Space; Hearing Conservation and Noise Control; Chemical Hygiene Plan; Bloodborne Pathogens; and Ergonomics.

We will provide copies of all SAIC Team-performed monitoring results to JSC Occupational Health within 15 days of receipt of results.

2.3 Hazard Identification

For identification of hazards, we will compile an inventory of hazards associated with the work performed, along with operations and work environments that are in the vicinity or in close proximity to contract operations. To begin the hazard identification process, analysts will become familiar with the items to be analyzed and the environment and planned operations to be reviewed. We will document analytical effort and rationale progressively and systematically. We will document a job hazard analysis using the Job Hazard Analysis (JHA) Form (see Appendix I). We will use techniques discussed in the following paragraphs to identify hazards and provide results of these analyses to JSC for review.

2.3.1 Comprehensive Survey

A comprehensive survey is a baseline survey of the work and working conditions at a site that permits the systematic recording of hazards, and potential hazards, that can be recognized without intensive analysis. This includes the assessment of pertinent reports, records, and procedures; S&H

audits of facilities and any existing programs; employee surveys; operations observations; and industrial hygiene surveys as examples. Once we have controlled identified hazards, we will perform the analyses required to recognize less obvious hazards. This baseline record of hazards also provides the basis for the inspection checklist for the more routine inspections. Qualified safety professionals, along with facility and operations personnel, will participate in this survey of SAIC Team occupied facilities, processes, equipment, and materials. For the industrial hygiene survey, at a minimum, we will inventory all chemicals and hazardous materials in the facility, review the hazard communication program, and analyze air samples. We also will survey noise levels and review ergonomic risk factors. The inspection of new facilities and startup operations includes a comprehensive survey by a safety and health inspection team composed of certified and qualified safety and health professionals and management personnel of the facility.

We will evaluate all facilities where SAIC Team personnel are working based on compliance with applicable regulations and commonly accepted safe work practices.

The program manager and CSR are responsible for implementing a program of comprehensive surveys that establishes a baseline of hazard identification and encompasses regulations that address employee safety and health, as well as environmental protection. The frequency of these surveys varies depending on the nature of the risks present at a location and the results of previous surveys. The purpose of the surveys is to assist management in implementing a program that meets the requirements set forth in this plan. They also identify areas of non-compliance, provide recommendations for corrective action, and establish timetables for correcting areas of non-compliance; identify alternative operating practices that provide opportunities to minimize hazards and hazardous waste, reduce exposure to employees, and/or provide greater environmental protection; identify opportunities for pollution-prevention programs, including source reduction and recycling activities; serve as an educational tool for local personnel; and provide the basis for periodic reports to the program manager on the status of the safety and health program.

If, during the survey or audit, an employee or the CSR discover a condition that poses an immediate threat to safety, health, or the environment, we will shut down the process or operation immediately until management has initiated action that corrects the condition. If the condition is not of immediate concern, we will establish a specific timetable to correct the condition. If a violation of federal or state law is discovered, the CSR will notify the program manager and NASA immediately.

The CSR will track compliance with all recommendations. The CSR will address the status of these recommendations in reports to the Contract Safety Committee and program manager with comments on any locations not making satisfactory progress toward compliance.

2.3.2 Change (Pre-use) Analysis

Changes to facilities, systems, equipment, processes, materials, operations,

procedures, and maintenance may unintentionally introduce new hazards. Potential changes are identified through integration of safety into management planning processes, CSR participation in management operations and planning, CSR integration in the procurement process, employee safety representative participation on the safety committee, and CSR quarterly audits across the site. Before changes are made, we will analyze the changes thoroughly to identify any impact on safety, health, and the environment. The respective managers and supervisors/section leads, the program manager, safety representatives, and certified or otherwise qualified safety and health professionals will conduct the analysis of changes. We will train managers and supervisors/section leads in the management of change, as they will be key to ensuring that processes or work procedures that are assessed proactively for safety and health impacts are changed as needed. The change originator will assess changes to hazardous operation procedures against the associated hazard analysis. The results of this change assessment will require CSR concurrence.

The CSR, in coordination with procurement, will approve the requested use of new or specialized equipment and/or chemicals for approval or identification of potential alternatives that minimize S&H effects. This assessment will identify the need for new or additional safety analysis, training, and hazardous operating procedures. Change analysis process is especially useful in addressing new facilities or facility modifications, procurement and installation of new equipment, procurement or use of new materials or quantities of materials, initiation of new processes, and key staffing changes. Changes may be driven by new or modified regulatory and NASA requirements. In these cases, we will complete analyses for the affected process or facility to develop an action plan for achieving compliance with the applicable requirement and for ensuring the health and safety of surrounding personnel.

2.3.3 Hazard Analysis

An analysis of systems and operations to identify potential hazards is a primary element of the system safety process of mishap prevention. Qualitative hazard analyses to identify hazards and ensure their resolution is a combined effort of the safety, facility engineering, and operations disciplines. Preliminary hazard analyses are performed for the preliminary design review to identify safety-critical areas, identify and evaluate hazards, and identify the safety design and operations requirements needed, first to eliminate, and then to control the identified hazards if complete elimination is not possible. We will further develop preliminary hazard analyses into systems hazard analyses later in the design phase to define and evaluate hazards, as well as elimination and control provisions more precisely, after the design is more mature. As a part of the ongoing job hazard analysis process and risk assessments, safety personnel and employees will perform further analyses to identify hazardous conditions with the potential for causing personnel injury or damage to hardware/equipment during hazardous operations.

Analyses and report formats will be in accordance with JSC 17773, Preparing of Hazard Analysis for JSC Ground Operations. We will classify hazards

identified through qualitative analysis in accordance with the Hazard Risk Index in JPR 1700.1, Chapter 105. We will update hazard analyses when changes occur to interrelated areas of design and system or subsystem integration that affect reported hazards or present new hazards. See SAIC Procedure S1.

2.3.4 Flow of Findings

Findings from the comprehensive survey identified in paragraph 2.3.1 will form a baseline for further hazard analysis and assessment. The top level process is shown in the figure below. These findings will be assessed per paragraph 2.3.3 Hazard Analysis using hazard analysis techniques such as Job Hazard Analysis (See JSC 17773, Preparing of Hazard Analysis for JSC Ground Operations and SAIC Procedure S1 Hazard Analysis). Hazard controls will be identified and implemented per paragraph 3.0 Hazard Prevention and Control, specifically following paragraph 3.2 Appropriate Controls. Hazards and associated controls will be documented in hazard analysis reports, specifically for documentation of control implementation. In addition the hazard analysis documentation will form the baseline for assessment of new activity and the results or lessons learned from incident and mishap investigations. SAIC will perform periodic reassessments and control verification through focused audits, annual reviews of hazard analysis, e.g., Job Hazard Analysis, and plans (e.g., Chemical hygiene Plan and EH&S Plan annual review).

The results of this process will be communicated to NASA in the form of S&H plan updates, Hazard Analysis documentation, HATS entries for items requiring tracking to ensure control implementation, and direct reporting. Hazard analysis and control documentation will also be used to communicate the results of the hazard analysis to the management of adjacent operations (See paragraph 1.3.2 Coordination.)

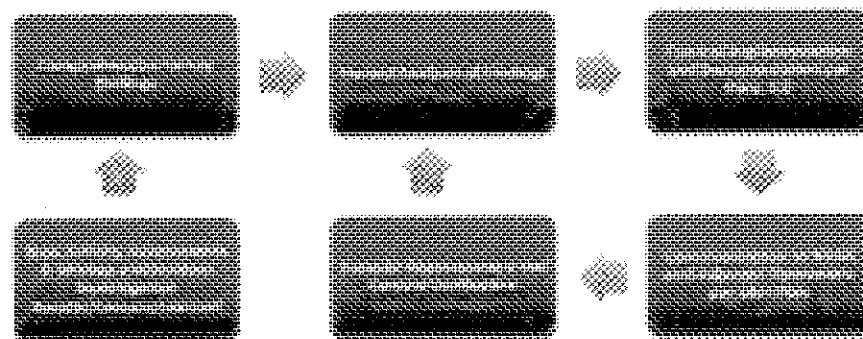


Figure 1-3 Flow of Comprehensive Survey Findings

2.4 Inspections

2.4.1 Regular Inspections

We will conduct regular inspections of SAIC Team occupied facilities and operations to identify and correct unsafe conditions and/or work practices. We will audit safety and health procedures to ensure proper implementation and compliance with current requirements and to identify opportunities for continuous improvement. We will conduct routine inspections tailored to all contract locations including JSC, KSC, and WSTF.

2.4.1.1 General

The CSR, managers, Contract Safety Committee, and employees of each respective area will conduct a variety of inspections and audits. The CSR will partner with representatives from the JSC occupational S&H services to conduct S&H inspections and audits as JSC conducts these on contract areas. If a regulatory entity such as OSHA or the Environmental Protection Agency wishes to conduct a compliance inspection of contract facilities, we will contact the CSR and JSC occupational S&H services representatives and follow the procedures outlined in Procedure 24, Regulatory Agency Inspections and Incident Reporting. **Figure 2-1** lists inspections and audits that will be performed by the SAIC Team, the frequency of performance, and documentation requirements.

2.4.1.2 Inspections

Qualified employees will conduct safety and health inspections of all work areas at least quarterly. We will inspect the RITF monthly in recognition of the hazards involved in RITF operations. These inspections will comply with OSHA and JSC directives regarding both interim and final inspection procedures and abatement plans. We will initiate corrective actions to resolve findings identified during all inspections, which we will track to closure using the NASA HATS and internal SATS/InSITE, as appropriate. If we find that a situation presents immediate danger to personnel or equipment, we will stop work immediately until the problem is corrected. We will use the following process.

Preparation. The employee conducting the inspection will review previous reports for trends, common infractions, and repeat items. If not a line management-performed tour, we will contact the responsible manager or supervisor/section lead to ensure his or her availability and knowledge of the tour. Employees also will be involved when possible. We will review the methods of assessment, review documentation, and reporting for any possible improvements in either efficiency or effectiveness.

Inspection – Compliance Assurance	Frequency	Documentation – Post on InSITE
Routine SH&E inspections	Quarterly	Inspection reports and follow-up plan
Routine Fire Protection inspections	Quarterly	Inspection reports and follow-up plan
RITF SH&E inspections	Monthly	Inspection reports and follow-up plan
Emergency training exercises	Annually	JSC Form 2150
External inspections (NASA, OSHA, EPA, etc.)	Annually/ Unplanned	Inspection reports and follow-up plan; NASA and corporate reporting
Office area inspections	Quarterly	Inspection reports and follow-up plan
RITF inspection	Monthly	Inspection reports and follow-up plan
Operational readiness inspections (ORI)	As Required	ORI Report and follow-up plan
Audits – SH&E Management System Evaluation	Frequency	Documentation
Safety and health plan review	Annually	Formal update and submission to the government
Annual SH&E program self-evaluation of performance	Annually	Self evaluation in VPP format; DRD-10
Behavior based safety observations	Quarterly	Observation reports; trend reports
RITF chemical hygiene plan	Annually	CHP updated; employee training documentation in Learner
Hazardous waste management audit	Annually	Audit report and follow-up plan;
Mishap/incident/damage reporting, root cause identification, hazard controls audit	Annually	Audit reports and follow-up plan; OSHA Form 300
Reviews and lessons learned at safety awareness training	Monthly	Safety committee minutes and attendance
Special program evaluations	Determined by trends/ analysis	Safety Office records
Hazardous materials inventory and audit	Quarterly/ Annually	Updated JSC system quarterly and annually as required
VPP re-certification audits	Every 3–4 Years	Formal report by OSHA audit team; deficiencies addressed and tracked in follow-up plan
Program Audits (i.e., PPE, respirator protection, LOTO, HAZCOM, etc.)	Annually	Audit report and follow-up plan
Safety monitors under guidance of S&MA CSR review maintenance procedures for proper inclusion of safety requirements	Ongoing	Document of review results maintained in Safety Office
S&MA CSR reviews procurements and subcontract proposals for inclusion of safety requirements	Ongoing	Signed-off coordination copy of proposal
JSC Safety and Health Survey or Internal Survey	As Required	PEP Corrective Action Plan closure audit report

Conducting the Inspection. The inspection will involve the use of a checklist as a guide for items to be covered. A sample inspection checklist is included in Appendix E. We will develop site-specific checklists for each facility. We will tailor the checklists to the specific hazards and incident history of the facility. We will document findings as clearly as possible; photographs and diagrams may be used to emphasize a finding. We will develop a risk assessment code for each finding to help prioritize corrective action. The inspection will be as comprehensive as possible, addressing operations and behavior observations,

as well as facilities and equipment.

Post Inspection. The inspection team will prepare a report of findings and recommendations. The appropriate manager or supervisor/section lead will review the report and assign responsibility for closure of findings. Managers will forward their self-inspections to the CSR for review and data collection. We will enter the inspection findings into the SAIC Tracking System (INSITE) and HATS (as appropriate) to facilitate status tracking, closure documentation, and trending.

2.4.1.2.1 Manager Self-Inspection. Managers and supervisors/section leads will formally inspect their work areas on a semiannual basis. They will alternate these inspections on a quarterly basis with formal inspections conducted by the CSR. Managers and supervisors/section leads will forward the results of these inspections to the CSR for review and data collection.

1. *2.4.1.2.2 Formal Inspections.* The CSR will conduct inspections of all facilities on a semiannual basis, alternating quarters with the managers' and supervisors'/section leads' self-inspections. We will conduct and document monthly walkthroughs of hazardous areas as well. We will use a checklist for general office areas and develop tailored checklists for the monthly inspections of high-hazard areas or operations. Areas addressed include safety, health, environment, and fire protection.

2. *2.4.1.2.3 Employee and Contract Safety Committee Self-Inspections.* Employees should be aware of hazards in their workspaces. To assist in the periodic review of workspaces by employees, we will develop a checklist. We will use this checklist upon hire, transfer to a new space, or when otherwise necessary, and forward findings to the cognizant manager and the CSR for corrective action and data collection.

3. *2.4.1.2.4 JSC Occupational S&H Inspections.* JSC representatives are authorized to enter any work area and conduct inspections. All employees will cooperate fully with the safety and health inspectors during an inspection.

4. *2.4.1.2.5 Operational Readiness Inspections.* The inspection of start-up or new facilities and operations will include an inspection by a safety and health inspection team to be formed by the CSR, an appointed site representative, or JSC occupational safety, health, environmental, and medical services representatives.

2.4.1.3 Audits

The SAIC Team will conduct an audit program to identify potential policy and procedural weaknesses, areas for improvement, instances of inadequate safety and health practices, and activities that constitute either a failure to correct or a repeat finding from an earlier audit. The CSR will establish a S&H program audit schedule. The scheduled completion of audits will support the completion of the annual program evaluation (see Paragraph 1.8). The process involves focusing on a specific program or procedure and evaluating its implementation through records review, incident and mishap data review, onsite reviews using compliance checklists, observations, interviews, or questionnaire completion. We will track any incidents related to the program being audited through the applicable safety and health program and reports. This process will help

determine whether an effective safety and health program has been implemented. We will document audit findings and associated corrective actions, assign them to the responsible party, and track them to closure in the SAIC Safety Action Tracking System.

2.4.1.3.1 Annual Lock-Out/Tag-Out Audit. The CSR will conduct an annual lock-out/tag-out program compliance audit. This will focus on compliance with current regulatory and JPR 1700.1, requirements, and the implementation of Procedure 11, Lock-out/Tag-out.

2.4.1.3.2 Annual Hazard Communication Audit. The CSR will conduct an annual audit of the hazardous communication program. This will focus on compliance with current regulatory and JPR 1700.1 policies, requirements, and hazards applicable under 29 CFR 1910.1200 and the implementation of Procedure 8.0, Hazard Communication and Hazardous Chemical Control.

1. *2.4.1.3.3 Annual Hazardous Waste-Management Audit.* The CSR will conduct an annual audit of the hazardous waste-management program against JPR 8800.3 and the SAIC Team S&H Plan.

2. *2.4.1.3.4 Behavior Based Safety (BBS) Observations.* The CSR will be the contract's focal point for BBS implementation audits. This includes BBS implementation both in coordination with JSC and on a contract level. We will trend observations performed to identify areas to reinforce positive behavior or to address negative behavior and potential issues with the related management system.

2.4.1.4 Safety and Health Audit Responsibilities and Inspections

2.4.1.4.1 Responsibilities

2.4.1.4.1.1 Contract Safety Representative. The CSR will conduct or oversee program audits and conducts or ensures monthly safety and health inspections addressing every facility on a quarterly basis. We will inspect areas with additional exposures and hazardous operations on a more frequent basis established by management and the CSR, including the RITF and WSTF. These inspections will use checklists tailored specifically for hazardous operations. Management and the CSR will update the checklists continually, so they remain functional for the location and the type of activities performed. The CSR will report the findings for each audit to the program manager, and the Contract Safety Committee. We will make all audit findings, along with additional safety information, available to all employees on InSITE. The findings of each audit will be tracked in the SATS database, which includes the date the finding was discovered, a plan for eliminating the hazard, the responsible manager, and the closure date. NASA will have access to all audit and inspection data.

1. *2.4.1.4.1.2 Managers and Supervisors/Section Leads.* The manager or supervisor/section lead of the inspected area will initiate and follow through on necessary actions to correct all identified deficiencies. Actions include the preparation of a work request or safety training of employees. The manager or supervisor/section lead will make a note of the corrective actions initiated and completed on his or her copy of the inspection checklist and submit a copy of the

checklist to the CSR. They will contact the CSR promptly when audit items have been closed.

2. 2.4.1.4.1.3 Employees. Employees will participate on inspection and audit teams. They will complete self-inspections of their assigned workspaces and assist, when necessary, with corrective actions.

2.4.1.4.2 Inspection Types

2.3.1.4.2.1 Manager Self-Inspection. Managers and supervisors/section leads are responsible for formally inspecting their work areas on a semi-annual basis. These inspections will be alternated on a quarterly basis with formal inspections conducted by the CSR. The results of these inspections will be forwarded to the CSR for review and data collection.

1. 2.4.1.4.2.2 Formal Inspections. The CSR will conduct inspections of all facilities on a semiannual basis, alternating quarters with the managers and supervisors/section leads' self-inspections. Monthly walk-through of hazardous areas will be conducted and documented as well. A checklist will be used for general office areas and tailored checklists will be developed for the monthly inspections of high-hazard areas or operations.

2. 2.4.1.4.2.3 Employee and Contract Safety Committee Self-Inspections. Employees should be aware of hazards in their workspaces. To assist in the periodic review of workspaces by employees, a checklist will be developed. This checklist should be used upon hire, transfer to a new space, or when necessary. Findings should be forwarded to the cognizant manager and the CSR for corrective action and data collection.

3. 2.4.1.4.2.4 JSC Occupational Safety, Health, and Environmental Inspections. JSC representatives are authorized to enter any work area and conduct inspections. All employees will cooperate fully with the safety and health inspectors during an inspection.

4. 2.4.1.4.2.5 Operational Readiness Inspections. The inspection of start-up or new facilities and operations will include an inspection by a safety and health inspection team to be formed by the CSR, an appointed site representative, or JSC Occupational Safety, Health, Environmental and Medical Services offices.

5. 2.4.1.4.2.6 Annual Lock-Out/Tag-Out Audit. The CSR will conduct an annual lock-out/tag-out program compliance audit. This will focus on compliance with current regulatory and JPG 1700.1, Chapter 502 requirements and the implementation of Procedure 11, Lock-out/Tag-out.

2.4.1.4.2.7 Annual Hazard Communication Audit. The CSR will conduct an annual audit of the hazardous communication program. This will focus on compliance with current regulatory and JPG 1700.1 policies, requirements, and hazards applicable under 29 CFR 1910.1200 and the implementation of Procedure 8.0, Hazard Communication and Hazardous Chemical Control.

1. 2.4.1.4.2.8 Annual Hazardous Waste-Management Audit. The CSR will conduct an annual audit of the Hazardous Waste-management Program against JPG 8800.3 and the SAIC S&H Plan.

2.

2.5 Personal Protective Equipment

Personal protective equipment includes devices and clothing designed to protect an individual while in potentially hazardous areas or performing potentially hazardous operations.

2.5.1 Policy

To protect employees from potential hazards in the workplace that cannot be otherwise controlled, the SAIC Team will provide personal protective equipment appropriate for the task. Managers and supervisors/section leads, supported by the CSR, will assess the workplace to identify potential hazards and hazardous operations that necessitate the use of personal protective equipment and advise employees on personal protective equipment required for all operations. The manager or supervisor/section lead will ensure that employees receive training in the proper selection, use and limitations, and inspection and maintenance of required personal protective equipment. Each manager or supervisor/section lead is responsible for obtaining equipment. Employees will not use defective or damaged equipment. We will perform a PPE annual assessment for all contract spaces. Records of PPE assessments, training, JHAs, and other pertinent activities or information, will be maintained by the CSR and on InSITE.

SAIC Team Procedure 13, Personal Protective Equipment, provides guidelines for eye, face, head, foot, and hand protection. Procedures 9 and 15 cover respiratory and hearing protection.

2.5.2 Responsibilities

Contract Safety Representative. The CSR maintains records of hazard assessments to identify PPE requirements and to assist managers in selecting appropriate PPE. The CSR ensures that equipment conforms to applicable standards (i.e., American National Standards Institute or the NIOSH), and ensures or provides training on equipment requirements, use, limitations, proper care, maintenance, useful life, and disposal.

Managers/Supervisors/Section Leads. Managers and supervisors/section leads are required to select PPE with support from the CSR. For each work area, the manager or supervisor/section lead enforces the mandatory use of PPE and ensures that it is readily available to employees working in areas or performing operations requiring its use. Managers and supervisors/section leads are responsible for ensuring employees are trained in proper PPE selection, use, limitations, inspection, and maintenance, and for equipment storage and maintenance.

Employees. Employees use, maintain, and store PPE in accordance with this procedure, completed training, and instructions provided by managers or the CSR. They report all equipment problems (i.e., damaged, worn, or inadequate equipment) to the manager or the CSR. Employees will not use worn or defective PPE.

2.5.3 General Requirements for Personal Protective Equipment

Hazard Assessment. OSHA Regulation 29 CFR 1910.132 requires an

assessment of each workplace to determine if hazards are present, or are likely to be present, for which the use of PPE is needed. JSC addresses PPE assessments and selection in JPR 1700.1,. We will use the Hazard Assessment to Support Personal Protective Equipment Selection form provided in procedure 13 of this plan for hazard assessment to support PPE selection for documentation of this assessment. We will certify this assessment by including the name of the facility evaluated, the date of the assessment, and the name of the person performing the assessment. The responsible manager or supervisor/section lead will select PPE based on the results of this hazard assessment. The CSR will maintain the completed PPE assessment form for official records keeping.

Training. Each employee who uses PPE will be trained and will demonstrate the ability to use the equipment properly. Training will cover donning, doffing, adjustment, use, limitations, proper care, maintenance, useful life, disposal, and knowing when protective equipment is necessary. Retraining will be done when changes in the workplace or types of PPE to be used render previous training obsolete or if inadequacies in an employee's knowledge or use of equipment indicate that the employee has not retained the requisite understanding or skill.

2.6 Employee Reports of Hazards

We will establish an effective system for reporting hazards in the workplace so that corrective action may be initiated to prevent injury to personnel or damage to facilities, equipment, and the environment. Numerous methods will be available for employees to report hazards and close calls to management for corrective action. Direct communication to management, the JSC Close Call System, and the Safety Action Hotline 281-483-7500, and the Center Director's Hotline 281-483-1234 are some avenues available to SAIC Team employees. We will use the JSC "Stop It" chart, available on the JSC Safety and Total health Web page (see *example in Appendix K*), as a tool in communicating awareness of hazard reporting methods at JSC. The SAIC Stop-It chart is available to all employees on INSITE.

2.6.1 Responsibilities

Employees will immediately report all hazardous conditions to their managers or supervisors/ section leads, correct the hazard if possible, and report all injuries, close calls, incidents, and mishaps to management promptly. Managers and supervisors/section leads will indoctrinate all employees in hazard-reporting procedures, ensure that employees report all close calls and hazardous conditions in accordance with this procedure, implement permanent or interim hazard abatement when applicable, and investigate hazards and close calls to determine actions required to prevent injury or property damage. The CSR will support the investigation of hazards, injuries, close calls, incidents, and mishaps to determine actions required to prevent injury or property damage and follow up on implementation of recommended corrective actions.

2.6.2 Reporting Hazards

A hazard is defined as an unsafe or unhealthy condition that could lead to a mishap if not corrected. If possible, any hazard will be corrected by the person

who discovered it and then reported immediately to the manager of that area. If the hazard cannot be corrected immediately, the manager or supervisor/section lead will take the steps necessary to ensure interim safety and to correct the hazard.

If the manager or supervisor/section lead cannot correct the hazard, he or she will report it to the facility manager, who then will respond to the hazard with corrective action or a plan for implementing corrective action. If a manager, supervisor/section lead, or facility manager cannot correct the hazard within 30 days, we will develop a plan to provide interim hazard controls and submit it to the JSC Safety and Test Operations Division. If the response from these organizations is not satisfactory, the employee can report the hazard up the SAIC Team management chain. We also will use the NASA IRIS System as directed by JSC.

If the perceived hazard is not appropriately addressed by these organizations, the hazard can be reported to OSHA by calling 1-800-321-OSHA.

2.6.3 Reporting Close Calls

A close call is an occurrence in which there is no injury or property damage but which could have resulted in a mishap. Close calls are not classified as mishaps but are potentially significant indicators of undesirable conditions in the work environment. We will report close calls using a JSC Close Call Report form (on-site, JSC) or an SAIC Team Close Call form (off-site; see Appendix H). Close calls may be reported anonymously, and employees will not be subject to reprisal for reporting hazardous conditions in their workspaces. Completed forms are to be e-mailed or faxed to the number on the form. An additional copy will be faxed and/or e-mailed to the CSR.

The CSR has the formal responsibility to log and track all reported close calls until they are closed. The close call will be reported to a facility or group manager for investigation and closed after a plan has been implemented and the hazard corrected. We will provide a response, including the closure plan, to the employee who reported the close call, if it was not reported anonymously. The CSR will also review all close calls reported for imminent hazards. We will take appropriate action to ensure the safety and health of employees and facilities and to keep NASA and contract management informed. If the close call reveals a high severity potential, a formal root cause investigation may be required.

2.6.4 Encouragement for Reporting Close Calls and Hazards

All employees are expected to participate in the JSC hazard and close call reporting system and promptly report hazardous conditions. Close-call forms are placed throughout the site in kiosks in each building and are available on the JSC Safety and Health Web site. In addition, hazard reporting and safety suggestion forms are available for all employees. Employees may report hazards, close calls, mishaps, or safety and health issues or concerns free from any threat of reprisal. Management will reinforce this by encouraging reporting and openly discussing safety and health issues. The hazard and close call report will facilitate anonymous reporting. For anonymous reports, the contract safety committee will provide closure concurrence. SAIC Team will provide incentive

awards for hazard and close call reporting at all-hands meetings and during safety and health awareness events.

2.7 Accident (Mishap) and Record Analysis

2.7.1 Mishap Investigation

The purpose of mishap investigation is to provide for identification of root causes and corrective action to prevent recurrence. Reporting of mishaps that result in injury, illness, or property damage is mandatory so that they can be investigated and properly reported. Guidelines follow those established by NPG 8621.1, NASA Procedures and Guidelines for Mishap Reporting, Investigation, and Record Keeping, JPR 1700.1, and DRL-10. Reporting is critical so that: cause may be identified and, if appropriate, corrective action initiated to prevent a recurrence; hazards can be abated before they cause a mishap or close call; NASA and OSHA reporting and recordkeeping requirements can be met; and insurance notification requirements can be met.

2.5.1.2 Definitions

A mishap is defined as an unplanned incident or event occurring at work or while on company business that caused injury, illness, or death to personnel and/or damage to equipment, facilities, or the environment.

A close call is defined as an occurrence in which there is no injury, no property or equipment damage, and no significant interruption of productive work but which has a high potential for any of the mishaps defined below.

A serious injury or illness is defined as an accident that required in-patient hospitalization for a period in excess of 24 hours for other than medical observation, or in which an employee suffered a loss of any member of the body or suffered any serious degree of disfigurement. SAIC Team and JSC categorize mishaps as follows:

- *Close Call (one or both of the following) An event or a condition that could have resulted in an injury, an illness, or a interruption of work or environmental spill, release, noncompliance, or nonconformance, but did not. Damage less than \$1,000*
- *Type A mishaps result in death, a permanent total disability, or the hospitalization of 3 or more people within 30 workdays of the mishap, or property damage in excess of \$1 million.*
- *Type B mishaps result in permanent partial disability, hospitalization of one or two persons for more than observation within 30 workdays of the mishap, or property damage between \$250,000 and \$1 million.*
- *Type C mishaps result in lost-workday case, restricted duty, transfer to another job, or property damage between \$25,000 and \$250,000.*
- *Type D mishaps result in Injury or illness without lost time that*

requires “medical treatment” as defined by OSHA, or damage

First aid cases are mishaps that result in injuries or illness requiring only first aid treatment.

■ *Injury or Illness*—Any injury or illness is an abnormal condition or disorder. Injuries include cases such as, but not limited to, a cut, fracture, sprain, or amputation. Illnesses include both acute and chronic illnesses, such as, but not limited to, a skin disease, respiratory disorder, or poisoning. (Note: Injuries and illnesses are recordable only if they are new, work-related cases that meet one or more of the Part 1904 recording criteria.)

■ *Medical Treatment*—Medical treatment involves the provision of medical or surgical care for injuries that are not minor through the application of procedures or systematic therapeutic measures.

■ *First Aid Treatment*—This is any one-time treatment and any follow-up visit for the purpose of observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such one-time treatment and follow-up visit for the purpose of observation are considered first aid, although provided by a physician or registered professional.

■ *Lost-Time Injury/Illness*—A non-fatal, traumatic injury that causes any loss of pre-scheduled time from work beyond the day or shift on which it occurred; or a non-fatal, non-traumatic illness that causes loss of time from work or disability at any time.

■ *Environmental Incident*—A health-related environmental incident, including the following (which may or may not constitute emergencies): - Mercury spill - Oil spill - Release of toxic or other hazardous material that causes or threatens to cause concentrations of such materials in air or water that exceed established regulatory limits

- Unauthorized release of toxic or other hazardous materials or release of large quantities of other materials into sanitary, industrial, and/or storm sewer systems - Any condition that causes or threatens to cause an individual to be exposed to excessive noise levels, radiation levels, and so forth.

2.7.1.3 General Requirements for Mishaps

Employees will report all mishaps, regardless of the apparent degree of severity or whether employees are injured or not, to their manager or supervisor/section lead and the CSR immediately after emergency procedures have been conducted. Mishaps that occur at JSC facilities also have additional reporting requirements, which are outlined under “Reporting Requirements for Mishaps.”. The CSR will be responsible for notifying the appropriate company human resources manager as soon as possible concerning any mishap that results in a serious injury, illness, or death to an employee; any damage to contract property in which the cost to repair or replace the damaged property is greater than \$2,500; any mishap involving damage to a contract-owned or leased vehicle; and any mishap that results in injury to an individual who is not an SAIC

Team employee or damage to property not owned by SAIC Team.

2.7.1.4 Reporting Requirements for Mishaps

The following procedures will be used for reporting mishaps. For mishaps that occur on contractor or third-party property, we will report the mishap immediately to the CSR, in addition to carrying out the following procedures:

Emergency Reporting. If the mishap is an emergency, we will call the site emergency number (33333 when on-site at JSC and 9-911 offsite JSC). When it is safe to do so, we will secure the scene to preserve evidence, notify the CSR, and then follow the procedures below for reporting the mishap to JSC. Emergencies include fires, explosions, hazardous material spills, major injury to one or more persons, property damage, conditions that are immediately dangerous to life or health, and situations in which prompt emergency response is required.

Initial Telephone Incident Notification. We will report incidents by telephone, with fax or e-mail follow-up, to JSC as soon as possible. We also will notify the CSR and corporate human resource manager.

Initial Safety Incident Report. We will provide an initial Mishap/Close Call Report, NASA Form 1627 as defined by JPR 1700.1, to JSC within 24 hours (e-mail NASA Mishaps Form 1627).

Assessment Report. We will provide a complete mishap report to JSC within 10 days of the mishap with the requirements as defined by JPR 1700.1 and DRL-2. After the mishap has been investigated and corrective action defined, we will complete NASA Form 1627 and send it to JSC.

The CSR will provide information and assistance in completing NASA Form 1627.

2.7.1.5 Investigating Mishaps

For investigating mishaps that occur at JSC, we will use the following procedures. For mishaps that occur on SAIC Team or third-party property, in addition to the following procedures, we will coordinate investigations with the site's management or safety personnel. SAIC Team members will cooperate fully in performing such investigations. Reporting to NASA will be in accordance with this plan.

A JSC-appointed Mishap Investigation Board will investigate mishaps that are Type A or Type B, or close calls that could have been mishaps of Type A or Type B. The SAIC Team CSR will perform collateral investigations, but NASA investigations will take priority with regard to access to evidence, data, and witnesses. The CSR and program manager will have an opportunity to comment on the investigation report in accordance with NASA protocols.

Managers will investigate Type C and Type D mishaps, first aid cases, and close calls. The CSR will support the investigation, which will be consistent with the guidelines presented in NPG 8621.1 and JPR 1700.1. After the manager has completed the investigation, identified root causes, and developed a plan of corrective action, he or she will report this to the CSR and complete the required blocks of NASA Form 1627 and submit it to JSC within 10 working days of the

mishap. If more than 10 days is required to perform the investigation, the SAIC Team will immediately notify the JSC Occupational Safety Office and request an extension. The CSR and JSC office will coordinate corrective action. News media will be referred to the NASA Public Affairs Office for information regarding a mishap or close call. The NASA director of public affairs will be the only person allowed to coordinate press releases to the news media.

We will attach any lessons learned from the mishap or close call investigation to the final report sent to JSC and entered into the NASA lessons-learned system. We will share this information with other JSC employees and organizations that might benefit from the report.

2.7.1.6 Responsibilities

Responsibilities are established as follows.

- Employees - Immediately report all incidents, injuries, mishaps, or close calls to their manager, supervisor/section lead, or CSR - Immediately report all hazardous conditions to their manager, supervisor/section lead, or CSR.
- Manager and Supervisor/Section Lead - Indoctrinate all employees in incident, mishap, and close call reporting requirements - Ensure that employees report all incidents, mishaps, close calls, and hazardous conditions according to this procedure
 - Ensure the safety of personnel and property, notify emergency response personnel when necessary, preserve evidence and witnesses, and secure the mishap scene from disturbance
 - Report hazards, incidents, close calls, and mishaps in accordance with this plan
 - Complete and submit the managers mishap investigation report and/or a NASA Form 1627 to the CSR, JSC, and the injured employee's human resources representative within 24 hours of first knowledge of an accident
 - Investigate all mishaps, incidents, and first aid cases with support from the CSR in accordance with this procedure - Take necessary actions to correct hazards discovered during the investigation - Complete NASA Form 1627 within 10 days of the mishap after an investigation has been conducted and a plan of corrective action has been developed and send it to the CSR and JSC
 - Monitor the recovery of an employee with a lost-time injury and arrange for that employee to return to work on light or restricted duty as soon as possible - Review close call and mishap information to evaluate trends in the work area - Take action to correct hazards and includes temporary measures to protect employees while waiting for building or equipment changes.
- Contract Safety Representative
 - Assist managers in investigating incidents, mishaps, and close calls to identify root causes and to determine actions required to preclude recurrence.
 - Maintain a permanent file of mishap investigation and related reports including OSHA Form 300/300A/ 301 and copies of the Employer's Report

of Occupational Injury or Illness provided by the SAIC Team (as appropriate) human resources representative

- Report information on a serious injury, illness, or death to OSHA officials as required by law - Report to the corporate safety official and NASA all mishaps meeting criteria outlined in this procedure
- Follow up on the implementation of recommended corrective actions
- Maintain a database for internal incident, mishap, and close-call tracking
- Assist NASA management with reporting, investigating, implementing corrective action, and documenting lessons learned as necessary, including coordination and procedure development.

■ **Corporate Human Resources Representative**

- Complete and forward to the worker's compensation insurance carrier and the CSR an employer's first report of occupational injury or illness for work-related injury or illness that requires medical attention
- Provide the injured employee with a copy of the employer's first report of occupational injury or illness form - Coordinate worker's compensation benefits and reporting - Coordinate assessment of early-return-to-work potential with the worker compensation carrier, medical personnel, management, CSR, and the employee.

2.7.2 Trend Analysis

To prevent mishaps and injuries, the SAIC Team will analyze trends including close calls, mishaps, and inspection findings. This information will be used to analyze trends and identify required action. This could include reinforcement of a positive trend, or corrective action to address a negative trend. We will maintain all findings from inspections, close call reports, and mishap investigations in the SATS where they can be analyzed to discover underlying trends. The CSR will provide tailored reports for all mishap data to include first aid, lost time, medical treatment, OSHA record injuries and illnesses, property damage, hazard-tracking information, and submitted close calls. We will present the trending information to the contract safety committee, the program manager, managers and supervisors/section leads, and employees on a regular basis. NASA will have access to these data as presented at management reviews, through contract monthly reporting, and online through InSITE. We will further analyze this information to identify specific areas, facilities, or organizations that exhibit negative or adverse trends. We then will determine root causes. Corrective actions taken to minimize or reverse the undesired trend may include hardware and/or procedure modifications and revised or revisited training. The proposed course of action will be presented to the contract safety committee and a recommendation made to the program manager.

2.7.2.1 Mishap/Incident Summary Report

Prior to the 10th calendar day following the close of each month, the CSR will submit DRD 11, Monthly Safety and Health Metrics Report (JSC Form 288) to the program manager and JSC-required distribution. We will deliver an electronic

form to JSC Safety Report Submittals mailbox..

2.7.2.2 Log of Occupational Injuries and Illnesses

The Occupational Safety and Health Act requires employers to report within 8 hours to OSHA any accident that involves a death or the in-patient hospitalization of three or more employees and to maintain certain records regarding work-related injuries and illnesses. We will maintain an OSHA Form 300, Log and Summary of Occupational Injuries and Illnesses. We will record each recordable injury or illness (On a NASA Form 1627 and 301 form) in the log within 6 working days after learning of its occurrence.

We will develop an OSHA 300/300A annual summary based on information contained in the log for each establishment. We will develop the summary 300A by totaling column entries on the log and signing and dating the certification portion of the form at the bottom of the page. We will complete the summary at the conclusion of the calendar year, certified by the Program Manager, a company executive (per 29CFR1904.32(b)(4)), and post it in a place where all employees will likely see it (such as InSITE and office bulletin boards). This posting requirement applies even when no recordable injuries occurred for the subject calendar year. We will post the summary no later than February 1, and it will remain in place until April 30. After that date, we will retain the OSHA 300/300A log and summary and OSHA Form 301s (or its equivalent) on the premises for 5 years.

The CSR will deliver to NASA a copy of the annual summary of occupational injuries and illnesses (or its equivalent). The CSR will compile data by calendar year and provide such data to the government within 45 days after the end of the year to be reported (e.g., not later than February 15 of the year following).

Responsibilities. The CSR will ensure that OSHA Form 300, 300A and OSHA Form 301 or its equivalent (e.g., employer's report of occupational injury or illness) are maintained and determine whether a work-related injury or illness is recordable and, if so, record each injury or illness within 6 working days of its occurrence or knowledge of the injury. The CSR also ensures that the annual summary is prepared, certified, and posted no later than February 1 for the calendar year just completed and sends a copy of the annual summary to JSC Occupational Health and Test Support Office. The CSR will also send a copy of the completed OSHA 300 Log and Summary to the SAIC Contract Records Retention Center, according to Procedure 18, Corporate Records Management. Additional responsibilities include maintaining a permanent file of the OSHA 300 Log and 300A Summary and OSHA Form 301, or its equivalent, and updating record-keeping requirements as necessary.

3. Hazard Prevention and Control

3.1 Hazard Control

We will eliminate or control hazards that are identified during inspections, hazard analyses, operational readiness inspections, facilities analyses, and/or job hazard analyses to prevent injury. The CSR will enter inspection findings into SATS and JSC HATS as applicable. These data will be entered for trending, tracking to closure, and employee awareness. Once hazards are identified and analyzed, we will implement interim or final controls to prevent injury or property damage. The selection of these controls should be based on the hazard-reduction precedence sequence that is described in Paragraph 3.2.

3.2 Appropriate Controls

3.2.1 Corrective Actions

The following corrective actions will be determined according to the hazard-reduction precedence sequence. The scope of coverage for this activity is all contract operations in which hazards, hazardous chemicals, equipment, discharges, waste, energies (electrical, hydraulic, pneumatic, mechanical, chemical, and so forth) are identified.

Design to Eliminate the Hazard. Design implementation or substitution of a less hazardous or material should first be used to eliminate hazards, if possible. Damage control, containment, and isolation of potential hazards should be a consideration in the design phase and throughout the life of the system.

Provide Safety Devices. Hazards that cannot be eliminated through design should be controlled through the use of appropriate safety devices as part of the system, subsystem, equipment, facility, or operations.

Provide Cautions and Warnings. When it is not possible to preclude the existence or occurrence of a known hazard, devices should be used to detect hazardous conditions and generate an adequate warning signal.

Develop Special Procedures. Administrative controls such as special work procedures, training, barriers, and signs can be used when the magnitude of existing or potential hazards cannot be eliminated or reduced through design or the use of safety and warning devices.

Personal Protective Equipment. This should be used as a last resort when no other controls are possible or should be used in addition to other control methods.

3.2.2 Hazard Control Design Criteria

The SAIC Team will use the following hazard-control design criteria:

- Safety design requirements are based on sound engineering practices and safety design principles for a particular system. Materials should be selected to serve the need while having the least amount of risk.
- Hazardous substances, components, and operations should be isolated from personnel in general, and from incompatible materials.

- Equipment should be located so that access during operations, servicing, maintenance, or repair minimizes personnel exposure to hazards such as electrical, toxic substances, radiation, and sharp injury-producing surfaces.
- Environmental conditions such as temperature, pressure, noise, toxicity, acceleration, or vibration should be controlled and minimized.
- Designs should incorporate displays, controls, and operating procedures that minimize the risk for human error.
- Alternative approaches to minimize risk should be used, such as interlocks, redundancy, fire suppression, protective clothing and equipment, devices, and procedures.
- Power sources, controls, and critical components should be protected by physical separation or shielding.
- Designs and operations should minimize the possibility of personnel injury or damage to equipment in the event of a mishap.
- Design of software-controlled or monitored functions should minimize hazards resulting from software malfunctions.

We will assign a risk value to each hazard and risk identified by the SAIC Team Safety and Health Program, using the hazard risk index shown in JPR 1700.1 and in Procedure S1. We will closed-loop track all identified hazards not eliminated by design and control. If residual risks remain after implementation of these controls, we will determine how much risk is deemed acceptable. The program manager will make final decisions on acceptance of residual risk.

We will coordinate the implementation of effective controls with the JSC Safety and Test Operations Division, and emergency authorities. We will coordinate specific services that may be needed to respond to a particular emergency through these entities. We will present specific hazards that may affect these organizations to their management for coordination, control approval and acceptance.

3.2.3 Implementation of Controls and Verification

After controls have been selected and design measures used as much as possible to eliminate hazards, the SAIC Team will reevaluate the task, program, facility, or equipment. We will reassess the hazard assuming that proposed controls are in place. If any new hazards arise from the assessment, we will evaluate them and recommend controls to prevent their occurrence. We will consider all phases of a process, such as test, startup, operation, maintenance, and disposal. If residual risks remain after implementation of these controls, we will determine how much risk is deemed acceptable. The NASA/JSC Safety and Test Operations Division will make the final determination if a hazard is acceptable. The implementation of effective controls will involve a coordinated effort between the SAIC Team CSR and the implementing organizations. We will coordinate any specific services that may be needed to respond to a particular emergency. We will present any specific hazards that may affect these organizations to the program manager for approval and acceptance of the

necessary controls.

3.3 Hazardous Operations and Processes

A hazardous operation is a job that involves hazardous materials, conditions, or equipment that requires special precautions to prevent injury or property damage. Operations are conservatively assessed to determine their associated hazards. Hazardous operations require greater attention of the program manager, other managers, and the employees to ensure safe operations. Prior to assigning personnel to tasks that involve hazardous operations, the SAIC Team will develop approved procedures, train and certify employees, and identify any permits required. The CSR will compile a list of all hazardous operations in S&MA SSC facilities (e.g., RITF, WSTF, and others that may be identified) and ensure that the proper procedures, training, and hazard controls are implemented. We will communicate this list to employees through orientation training and as available on InSITE. See Appendix J for the current approved list. This list must be reviewed and approved by NASA at contract start and then reviewed annually by the CSR for any changes. In addition, personnel working in facilities where hazardous operations take place are to be informed of this list and of the type, time, hazards involved, and duration of these operations directly by management and by posting of appropriate notification and warning signs, posting of appropriate permits and barriers, and close coordination with *the facility manager, management of adjacent operations, and JSC S&H representatives*. The NASA contracting officer is the final authority in determining classification of hazardous operations. Hazardous operations consist of a wide variety of tasks, which are considered hazardous because of the high energy, hazardous materials, high severity of potential mishaps, and other such factors, involved.

A hazardous process is a new or modified process that exceeds the minimum threshold quantities of highly hazardous chemicals and that falls under 29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals.

Identification of Hazardous Operations. We will use JPR 1700.1, , to determine if a given job task or process is considered a hazardous operation. The CSR will develop and maintain a list of all hazardous operations. The program manager, JSC Safety and Test Operations Division, and Occupational Health Office will decide jointly which operations are considered hazardous, with JSC serving as the final authority. After contract operations commence, the CSR will develop a schedule to create written hazardous operations procedures with an emphasis on the safety steps required. The hazardous operations procedures will be implemented and enforced by managers. NASA will have access, on request, to data necessary to verify implementation.

Management, assisted by the CSR as required, will assess and analyze all potentially hazardous operations to determine risk to personnel, equipment, and facilities. When a serious degree of risk dictates, personnel will work in pairs. Management will ensure that applicable requirements are followed and permits obtained. Managers will take extra care to recognize and respond to dangerous situations in which employees work in hazardous areas that they are not normally assigned to, or when they work near public-access areas.

The following operations are considered hazardous:

■ Oxygen deficient atmosphere ■ Confined space entries ■ Hazardous materials operations ■ Ionizing radiation operations ■ Non-ionizing radiation operations ■ Cryogenic substances operations ■ Hot work operations ■ High-noise operations ■ Crane and heavy equipment operations ■ Electrical work either energized or more than 600 volts ■ High-pressure gas operations ■ Work at heights ■ Any personnel exposure to high energy ■ Hazardous waste operations.

Safety of operations is achieved through incorporating safety requirements and controls into test plans and procedures, advanced planning for contingency and emergency situations, pre-task briefings, safety surveillance and exposure assessments during hazardous operations, and post-task briefings. Hazardous operations are performed using a properly approved operating procedure. The responsible manager will ensure performance and documentation of operations inspection immediately prior to the start of any hazardous operation, ensure pre-task briefings, establish a control area by clearly marking boundaries for each hazardous operation, impose restrictions for the number of personnel in the area and coordinate precautions if necessary to ensure that no areas outside of the control area are adversely affected by operations. He or she will be consulted for area clearance prior to the start of hazardous operations. The CSR will approve entrance into hazardous controlled areas. We will coordinate special problems with the safety representative as they occur.

Managers and supervisors/section leads will identify hazardous operations not previously identified and ensure that employees receive the proper training and follow procedures. NASA will have access, on request, to any hazardous operations procedure or related implementation data. If uncontrolled hazardous conditions are found to exist, operations will stop until the condition is corrected or hazard controls are put in place. All managers, supervisors/section leads, and employees have the duty to stop work if hazardous conditions are identified (see Procedure S5, Stop Work). Once a stop work has been initiated, the program manager will approve the return to operations.

Identification of Processes that fall under the Process Safety Management Standard. As identified in JPR 1700.1 , JSC in Houston presently has no processes that fall under OSHA's "Process safety management of highly hazardous chemicals" standard, 29 CFR 1910.119. In addition, SAIC has not identified any processes that fall under this standard. SAIC will communicate with JSC before introducing any changes that could affect this or are identified adjacent to SAIC JSC operations.

JSC's White Sands Test Facility has processes that fall under 29 CFR 1910.119 and must follow internal White Sands Test Facility requirements for implementing PSM. SAIC has operations that either interface with or are adjacent to process under the standard. See paragraph 3.3.4.

3.4 Written Procedures

Before operations begin, all hazardous operations *and processes (as defined by 29 CFR 1910.119)* will meet the requirements for the applicable category of

hazardous operations (see JPR 1700.1) and have written hazardous operations procedures or a hazardous operating permit. A job hazard analysis can be a component of a hazardous operations procedure or act as a standalone hazardous operations procedure. Managers and supervisors/section leads will ensure that written procedures are developed through management of change and interfacing with the CSR. The CSR is kept informed of new procurements through participation in the procurement approval process and communication of changes in contract operations by managers, area safety representatives, safety committee meeting discussion, and audits of the contract facilities. This ensures implementation of, and compliance with, hazardous operations procedures. The program manager will approve all hazardous waste procedures that address testing, maintenance, repair, and handling of hazardous materials.

Hazardous operations procedures will include steps to ensure the safety and health of personnel, provide applicable cautions and warning statements, specify actions to bring the emergency situation under control and return the system to its nearest possible safe condition, and identify applicable PPE and training. Procedures will be conspicuously marked on the title page to alert operators that strict adherence to the procedural steps and safety and health precautions contained in the procedures is required.

All hazardous operations/process procedures will have an approval signature from the responsible manager, the CSR, or assigned representative. Deviations or changes to procedures will require approval of the CSR. We will review hazardous operations procedures and update them annually. The managers and supervisors/section leads and CSR will participate in this review. All hazardous operations procedures will be available to employees for use in the performance of their duties. This may be achieved through ISO work procedures, online access, or point-of-operation manuals.

3.4.1 Personnel Certification

Managers and supervisors/section leads will ensure that employees who perform or control hazardous operations, *work on or adjacent to hazardous processes*, or use or transport hazardous materials are certified and have the necessary knowledge, skill, judgment, and physical ability to do the job in a safe and healthful manner. The CSR will support managers and supervisors/section leads in the identification of training requirements based on identified hazardous operations/processes. Employees will pass an oral test, written test, or work experience review. Certification will be recorded.

3.4.2 Notification

All facilities where hazardous operations/processes are to be performed will be posted with appropriate signs to alert all personnel of that hazard. Managers and supervisors/section leads will ensure notification of the Facility Manager and all employees in the affected facility.

3.4.3 Space Systems and Test Safety

This paragraph applies to testing activities at JSC and associated sites. Specific requirements are outlined in JPR 1700.1. Employees will be trained in the hazards to which they may be exposed as well as trained and certified in test

operating procedures, test emergency procedures, safety requirements, and individual tasks. Those who participate in a test also will participate in test readiness reviews, pretest briefings, pretest checkout, dry runs, simulated emergency drills unique to the specific test, and post-test debriefings, as required, to ensure full knowledge of test hazards, procedures, and full integration of the test team.

3.4.4 White Sands Test Facility (WSTF) Process Safety Management

JSC's WSTF has processes that fall under 29 CFR 1910.119 and SAIC operations shall follow internal WSTF requirements for implementing Process Safety Management. The SAIC S&MASS contract operations do not involve purchase or ownership of highly hazardous chemicals or covered processes but does involve work on or adjacent to covered processes.

SAIC will operate at WSTF in accordance with JPR 1700.1, JSC Safety and Health Handbook, Chapter 3.3 and White Sands Instruction (WSI) 25-SW-005.D, Process Safety Management of Highly Hazardous Chemicals (And all referenced instructions.) SAIC will ensure that all employees are trained on performing their job safely, of the hazards (Fire, explosion, toxic material release) related to work at WSTF, and of applicable provisions of the WSI 25-0009, "WSTF Emergency Preparedness Plan." The SAIC Team employees will be trained in the work practices necessary to perform their jobs safely and in reporting any new or changes in processes that may affect hazard controls..

SAIC Team employees will participate in the WSTF PSM program through training, adherence to safe work practices/work instructions, and appropriate involvement of relevant employees in review of the chemical systems and procedures as per the WSTF Management System Manual (MSM) Safety and Readiness Review Infrastructure Process and WSI 04-SW-0002, "Hazard Recognition and Control." Process safety information, process hazards analysis, training, pre-startup safety reviews, mechanical integrity, and hot work permit will be performed in accordance with WSTF instructions.

Specific WSTF requirements for operating procedures/written instructions shall be followed and these are contained in:

- § WSI 05-SW-0004, "WSTF Job Instruction (WJI) Control"*
- § WSI 09-SW-0001, "Test Preparation Sheet (TPS)"*
- § WSI 09-SW-0002, "Process Control Utilizing Work Instructions and Work Authorizing Documents"*
- § WSI 13-SW-0001, "Discrepancy Records (DR)"—Applicable to potentially hazardous repair procedures*

SAIC will ensure proper Management of Change of WSTF processes through appropriate evaluation of system changes for their potential impact on drawings, setup sheets, Hazards Analysis, FMEAs, operating procedures, maintenance procedures, or other documentation used for system configuration or hazards recognition and control. Standard WSTF configuration control procedures will be used for drawings, procedures, and setup sheets. Errata sheets or re-issuance will be used for the Hazards Analysis or FMEAs.

All mishaps and Close Calls shall be reported per WSI 25-SW-0009, "Mishap Notification, Investigation, and Recordkeeping" and WSI 25-SW-0028, "Close Call Reporting, Tracking and Corrective Action."

SAIC Management shall perform periodic compliance audits and support WSTF as required.

3.4.5 SAIC Corporate Environmental , Health and Safety (EH&SEH&S) Procedures

The following summary paragraphs describe each of the SAIC Corporate EH&S (i.e., S&H in this plan) procedures that support this plan and are applicable to the SAIC Team. The "local EH&S official" referenced is the SAIC Team CSR. These procedures are tailored to the specific site requirements.

1. *Location-Specific EH&S Policy and Responsibilities*—Delineates the responsibilities of management and employees in the development and implementation of a local EH&S program. The EH&S program consists of procedures that each location will modify or adapt to its specific situation as necessary.
2. *Emergency Procedures*—Establishes a plan and procedures for action and control of fire and other emergencies. All supervisors/section leads must be familiar with the emergency procedures established in this section. Supervisors/section leads are directly responsible for training their employees in accordance with Section 2.8, Employee Education and Drills, and with Section 5, Safety Orientation and Training. Annual training and documentation of such training is required. To provide for timely reporting and response, each employee must thoroughly understand the emergency procedures.
3. *EH&S Audits*—Outlines a program for performing S&H inspections of each facility that addresses the entire site at least quarterly. Local EH&S officials distribute the completed checklists, and supervisors/section leads take necessary corrective actions. Local EH&S officials maintain a current file of reports and verify that supervisors/section leads have taken action to correct deficiencies.
4. *Reporting Requirements for Mishaps and Recognized Hazards*—Summarizes procedures for reporting mishaps and close calls. Supervisors/section leads are responsible for completing a Supervisor Accident Investigation Report and other NASA documents for any work-related accident and training employees in required procedures. The local EH&S official maintains documentation regarding the incident investigation and corrective actions.
5. *Safety Orientation and Training*—Identifies responsibilities to ensure that all employees are trained in emergency evacuation, accident reporting, and other safety procedures. The Local EH&S official must make certain that each new employee receives this training and that the training is documented.
6. *OSHA Record Keeping and Reporting*—Defines the procedures for maintaining, posting, and filing an OSHA 300/300A log and annual summary. The local EH&S official is responsible for ensuring that all serious injuries are immediately reported to OSHA.
7. *Hazardous Waste Management*—Establishes company policies and procedures for managing hazardous waste. In addition, this section provides instructions for identifying, storing, and disposing (including recycling) hazardous

waste. Locations that generate hazardous waste are required to modify and implement this procedure to ensure compliance with local, state, and federal environmental regulations.

8. *Hazard Communication and Hazardous Chemical Control*—Provides requirements for hazardous chemical control, addresses standards for purchasing, labeling, inventorying, acquisition of Material Safety Data Sheets, and employee information and training programs. This section also provides for the establishment of a hazard communication program consistent with OSHA's Hazard Communication Standard. Modification and implementation of this procedure are required for locations using hazardous chemicals.

9. *Respiratory Protection*—Presents guidelines to ensure that employees required to wear respiratory protection (e.g., dust masks, chemical cartridge respirators) are properly trained in the selection, use, and maintenance of air-purifying respirators and are medically capable of using those respirators. Modification and implementation of this procedure is required for locations having operations that require the use of respiratory protection.

10. *Confined Space Entry*—Establishes procedures for pre-entry testing and permitting of confined spaces for oxygen deficiency, combustibility, and hazardous substance presence. The procedure also includes conditions for entry into and work within confined spaces and training elements for employees working in confined spaces. The local EH&S official is responsible for conducting all required testing procedures, issuing and posting confined space entry permits, and conducting and documenting employee training.

11. *Lock Out/Tag Out*—Outlines minimum requirements for the lockout or tagout of energy isolating devices. These requirements apply to the servicing and maintenance of machines and equipment for which the unexpected energization or start-up could cause injury to employees. The procedure consists of a safety sequence for restoration of energy to machines or equipment. The local EH&S official is responsible for conducting and documenting employee training.

12. *Medical Surveillance*—Implements OSHA regulations that require health monitoring for employees who may have exposure to certain chemical or physical hazards in the workplace. The procedure mandates medical examinations for certain classes of covered employees, specifies the tests to be performed in the examination, and implements recordkeeping and reporting requirements for medical records. The local EH&S official must identify covered employees and coordinate with examining physicians.

13. *Personal Protective Equipment*—Outlines company policies for procurement and use of PPE (e.g., eye protection and foot protection). Modification and implementation of this procedure are required for locations having operations that require the use of PPE.

14. *Chemical Hygiene Plan and Laboratory Safety Program*—Summarizes and implements the OSHA standard for laboratory safety. This procedure includes guidelines for making determinations on hazard identification, employee exposure to hazardous and toxic substances, required use of respirators, and medical consultation and examinations. The local EH&S official is responsible for training and education concerning chemical hygiene and safety and coordination

with the corporate EH&S manager, examining physicians, and affected employees. The local EH&S official must also maintain a reporting and recordkeeping system and periodically monitor laboratory operations and working conditions.

15. *Hearing Conservation and Noise Control*—Establishes a program for compliance with OSHA's noise standard for the survey and documentation of occupational noise exposure, and for employee training and implementation of engineering and administrative controls.

16. *Injury and Illness Prevention Program (California and Washington Only)*—The procedure sets forth overall employee and corporate duties regarding the identification of workplace hazards and injury and illness investigations and corrective actions.

17. *Laser Safety Procedure*—Defines hazard classifications and summarizes safety procedures for the use of Class 1–4 lasers in accordance with standards set by the American National Standards Institute (ANSI). Requires the designation of an on-site laser safety officer responsible for controlling the conduct of all laser operations in covered workplaces. The procedure includes mandatory safety precautions to be followed prior to the initiation of laser use and during the course of laser operation.

18. *EH&S Records Management*—Presents internal corporate procedures for the preparation, control, storage, and retrieval of EH&S records in compliance with the U.S. EPA, OSHA, and other regulatory agencies' requirements. Local EH&S officials must ensure the provision of all relevant EH&S records to the EH&S Records Retention Center, and further ensure that all records are complete and accurate.

19. *Radiation Protection*—Sets forth Nuclear Regulatory Commission (NRC) and SAIC standards for occupational radiation protection to ensure that employee radiation exposure is minimized to doses as low as reasonably achievable and that releases of radioactive materials are within regulatory and permit limits. This procedure requires the designation of a local radiation safety officer who is responsible for pre-paring and implementing a radiation protection program, including periodic surveys, training, investigation, and reporting requirements.

20. *Hazardous Waste Operations*—Implements the OSHA requirements for the protection of workers engaged in hazardous waste operations. The procedure includes guidelines for proper training of covered employees, preparation of site-specific health and safety plans (HASP), compliance with applicable medical surveillance and care requirements, and record keeping. The local EH&S official, in concert with each designated site health and safety officer (SHSO), is responsible for implementing the procedure.

21. *Water Quality and Permit Compliance*—Provides requirements for compliance with the regulations promulgated under the federal Clean Water Act, and any state, or local requirements developed pursuant to the federal requirements. Covers SAIC locations with industrial wastewater discharges to a publicly owned treatment works (POTW) and storm water discharges regulated under federal storm water regulations. The procedure includes guidelines for industrial discharges to the sanitary sewer, including discharge prohibitions,

facility reporting and recordkeeping, and monitoring. In addition, permitting and compliance monitoring and reporting requirements for storm water discharges are identified.

22. *Air Quality and Permit Compliance*—Implements applicable provisions of the federal Clean Air Act and state or local air pollution control laws and regulations. Provides for evaluating processes that produce air emissions at SAIC locations, permitting facilities or operations as required by the cognizant regulatory authority, complying with permit provisions regarding the operation, monitoring, and recordkeeping and reporting of air discharges. In addition, the potentially regulated sources of air emissions within SAIC are identified.

23. *Emergency Planning and Community Right-to-Know Compliance*—Provides for compliance with the federal Emergency Planning and Community Right-to-Know Act (EPCRA) and other similar state and local community right-to-know regulations. The procedure provides for emergency planning notification to state and local officials; notification to state and local officials for certain specified releases of hazardous substances from SAIC facilities or resulting from SAIC's shipment of hazardous substances; and submission of inventory and material safety data sheet information on the storage of certain hazardous substances exceeding specified quantities.

24. *Regulatory Agency Inspections and Incident Reporting*—Establishes policies and procedures for employees to follow during inspections by regulatory agencies. Also outlined are notification and procedural requirements to be followed in the event of an environmental or safety incident. Guidance is given on reporting requirements and how to handle correspondence resulting from the incident or inspection.

25. *Management of Investigation-Derived Wastes*—Establishes management practices to ensure that all investigation-derived wastes (IDW) generated from SAIC sampling, investigation, and characterization activities performed at sites potentially contaminated with hazardous substances or petroleum products are properly managed in accordance with all applicable environmental laws and regulations. The procedure provides direction and guidance on specific contract language (to ensure that we do not perform any activities that may pose potential liability under RCRA, CERCLA, or any equivalent state laws, as a generator of hazardous waste or an arranger of hazardous substance transportation, treatment, or disposal on a client's behalf), as well as on the development of management plans for IDW.

26. *Powered Industrial Trucks*—Establishes minimum requirements for the safe use and maintenance of powered industrial trucks by SAIC employees. Local EH&S officials are responsible for ensuring that site-specific industrial truck operating rules are established, trucks have appropriate approvals and designations for the environment(s) in which they are to be used, pre-use inspections are conducted, and all applicable components of the defined operator training and evaluation program are implemented.

27. *Universal Waste Management*—Establishes minimum requirements for the management of universal wastes (e.g., waste fluorescent lamps, batteries,

pesticides, and thermostats) from SAIC facilities and activities. Local EH&S officials are responsible for ensuring that site-specific universal waste management programs are established addressing accumulation and labeling, off-site shipment, training, and recordkeeping.

28. *Hazardous Material Transportation*—Defines responsibilities and establishes minimum requirements for SAIC employees involved in the offering or preparation of hazardous material for transportation or the self-transportation of hazardous material meeting the “material of trade” exception. Local EH&S officials are responsible for establishing written instructions or guidelines to ensure that all hazardous material to be offered for transportation are properly identified and managed, all required training is provided and properly documented, and records of employee training and hazardous material shipments are retained as specified.

Local SAIC S&MA SSC Standard Operating Procedures:

- S1 *Hazard Analysis and Control*—Establishes the process for identification, classification, control, and assessment of hazards and risk levels. The procedure provides direction on methods to identify and resolve hazards to personnel and property, specifically hazard analysis and job safety analysis methodology. Hazard analysis and risk assessment are the responsibility of line management supported by the contract safety representative.
- S2 *General Office and Site Safety*—Provides basic controls for common hazards that may be encountered while working in office buildings and traveling on-site at JSC. Reviews general safety rules for the site, including driving, walking, and bicycling safety. All employees working on-site are expected to abide by the safety rules enacted and enforced by JSC.
- S3 *Hazardous Operations*—Defines hazardous operations and establishes the controls to ensure that the line managers, safety representative, and employees are aware of the requirements for hazardous operations. A hazardous operation is a job that involves hazardous materials, conditions, or equipment and requires special precautions. Before personnel are assigned to tasks that involve hazardous operations, we will develop and approve procedures, train and certify employees, and identify permit requirements. Line managers are responsible for identifying any hazardous operations not previously identified and ensuring that employees receive the proper training and follow procedures.
- S4 *S&MA SSC Safety and Health Committee (SHC)*—Defines roles and responsibilities of the S&MA SSC Safety and Health Committee. The S&MA SSC SHC is established to foster implementation of safety, health, environmental protection, and emergency preparedness program (“safety program”) requirements in S&MA. The committee will establish and oversee an S&MA SSC safety program to ensure a safe and healthful work place for all S&MA SSC employees.
- S5 *Shop Safety*—Establishes safety procedures regarding the installation, use,

and repair of shop equipment. OSHA requirements for machine installation, guarding, cleaning, and maintenance will be followed. Power tools and hand tools must be inspected on a frequent basis for safety hazards and other deficiencies. Batteries have special hazards and special requirements, which must be followed to ensure employee safety.

- S6 *Measuring the Effectiveness of SAIC's S&H Protection Program*—Establishes requirements and procedures for the self-evaluation of the S&MA SSC EH&S program. Identifies the performance evaluation profile (PEP) methodology as the measurement system for program effectiveness. Contract management safety performance objectives are also identified for manager safety performance evaluation.
- S7 *Standards and Variances*—Provides guidelines for the processing of a waiver or variance against JSC, NASA, and OSHA safety standards. Variances to OSHA standards must be approved by NASA Headquarters and the Secretary of Labor. Variances to JSC requirements will be approved by the Director of Safety, Reliability, and Quality Assurance. Requests must be written and contain specific information regarding the variance and how employee safety will be protected.
- S8 *Stop Work*—This procedure establishes the requirements necessary to ensure that a stop work order is issued when a potentially unsafe operation or imminent hazard could jeopardize personnel, equipment, or facilities.
- S9 *Electrical Safety*—Establishes safety procedures regarding the installation, use, and repair of electrical and electronic equipment. Electrical equipment will be installed in accordance with the requirements of the National Electrical Code and the appropriate OSHA standards.
- S10 *Fire Prevention and Protection*—Provides guidelines for recognizing and controlling fire hazards and provides information regarding the fire suppression capabilities at JSC on-site facilities. All employees are required to take an active part in fire prevention and to report conditions and practices that may constitute a fire hazard.
- S11 *Ladders, Stairways, Elevated Working Levels, and Scaffolds*—Establishes procedures for the care and use of ladders, stairways, elevated working levels, and scaffolds to ensure safety under normal conditions of usage. All portable and fixed ladders will conform to the requirements given in OSHA standards. Ladders, scaffolds, stairways, and elevated working levels will be installed and guarded as required in the Industry and Construction OSHA standards. We will train all personnel properly before they are allowed to work on any type of ladder, scaffold, stairway, or other elevated working level.
- S12 *Asbestos in the Workplace*—Provides guidelines concerning Asbestos Containing Material (ACM), which may be present at workplaces within JSC, and specific requirements for performing work in these areas. JSC must follow all federal, state, and local regulations and guidelines to control hazards associated with asbestos on their premises. For operations,

maintenance, or construction in areas where asbestos-containing material could be disturbed, the procedures set forth in additional JSC procedures must be followed.

S13 *Bloodborne Pathogens*—Outlines a program for protecting S&MA SSC employees working at JSC from potential exposure to bloodborne pathogens, which may be present in human blood, tissue, or body fluids. Although there are no job classifications at this time in which potential exposure is expected, some general safety procedures are provided that should be followed in the event of an exposure incident.

S14 *Environmental Health and Safety Procedures for Plant Construction, Renovation, and Personnel Relocation*—This procedure establishes guidelines for all construction, renovation, and relocation of personnel facilities. These guidelines are established to ensure the health and safety of S&MA SSC employees, subcontractors, and visitors, as well as compliance with federal, NASA, state, and local regulations regarding environmental issues.

S15 *Cryogenics*—This procedure discusses the characteristics of the more commonly used cryogenic gases, the general safety practices for working with them, and the proper handling and storage of cryogenic gases, specifically cryogenic nitrogen and argon.

S16 *Ergonomics*—Describes the SAIC Team's ergonomics program and provides general information regarding ergonomic issues and cumulative trauma disorders. Summarizes risk factors associated with cumulative trauma disorders and general precautions employees can follow to prevent the onset of ergonomic-related problems.

S17 *Preventive Maintenance*—This procedure describes the SAIC Team's preventive maintenance program designed to ensure that all equipment receives necessary periodic maintenance to remain in a safe and reliable condition. Although the maintenance of office equipment such as copiers, printers, and office furniture is not the responsibility of on-site JSC employees, the responsibility to recognize and report equipment needing maintenance still lies with each individual. The preventive maintenance program and scheduling system used at the RITF is discussed in detail.

3.5 Hazardous Operations Permits

We will perform permit-required hazardous operations in accordance with JPR 1700.1 requirements. Pressure systems and NDE inspectors occasionally perform operations that require confined space permits, primarily internal inspections of tanks. Hazardous operations requiring permits include confined space entry, hazardous processing, hot work, and other designated permit-required hazardous operations. The CSR (safety group) and/or program manager will approve all hazardous operations permit requests. Managers and supervisors/section leads will ensure that employees are aware of permit requirements and follow the established permit system. The applicable JSC permit system (i.e., confined space entry, hot work, lock-out/ tag-out) will be followed for each hazardous operation. Non-permit required hazardous

operations will operate under approved hazardous operations procedures.

3.6 Operations Involving Potential Asbestos Exposure

The SAIC Team will follow all federal, state, and local regulations and guidelines to control hazards associated with asbestos on premises. OSHA regulations concerning asbestos can be found in 29 CFR 1910.1001 and with JPR 1700.1, Chapter 5.7. Managers and supervisors/section leads, supported by the CSR, will identify operations that involve potential exposure to asbestos in the workplace. We will train employees to identify and avoid disturbing asbestos-containing materials in operations.

Employees without proper training, procedural knowledge, and permits will be prohibited from participating in operations that might disturb asbestos-containing materials. A manager and CSR will provide their approval and obtain the requisite site permits before employees cut or drill holes in any asbestos-containing material; install hangers, fasteners, drapes, or dividers in such a manner that they will damage asbestos-containing material; sand or grind any asbestos-containing material; move equipment or furniture that could damage floor tiles; sweep or use compressed air to clean up asbestos-containing material; and damage pipe or mechanical systems insulation that might contain asbestos. Employees who work in buildings that contain asbestos will be notified of its presence and given procedures to follow if a suspected asbestos release occurs in the area.

3.7 Operations Involving Exposure to Toxic or Unhealthful Materials

When new operations are being considered, we will review applicable task information such as procedures, equipment manuals, and material safety data sheets to identify potentially toxic or unhealthful materials that may be involved. If such hazards are discovered, we will notify the CSR and the appropriate JSC occupational S&H representatives prior to initiation of any such procedures. Operations will comply with site requirements for handling toxic or hazardous materials (see JPR 1700.1, Chapter 9). SAIC Team managers and supervisors/section leads and the JSC Safety and Test Operations Division and Medical Services Office also will be involved in developing effective controls for the process to ensure employee health is not compromised or jeopardized. Procedures for controlling specific health hazards are Hearing Conservation and Noise Control, Procedure 15.0; Laser Safety Procedures, Procedure 17.0; Radiation Protection, Procedure 19.0; Bloodborne Pathogens, Procedure S13; and Cryogens, Procedure S15.

3.8 Reserved

3.9 Baseline Documentation

It is anticipated that SAIC Team employees will be primarily located in JSC Buildings 17, 45, and 15, which are not required to follow JPR 1700.1 Chapter 10.4. S&MA SSC employees located in JSC Building 15 will maintain facility baseline documentation for the RITF only. Should this change, management will

assess the new facilities for compliance with this paragraph. Spaces will be analyzed to determine if facilities maintenance baseline documentation is required. We will maintain a list of SAIC Team-occupied facilities at JSC and other contract locations that require such documentation. This requirement ensures that the facility manager develops, validates, and maintains baseline documentation for critical, complex, or hazardous facilities. SAIC Team will support this process by providing documentation of procedures, analyses, and other documentation as defined in JPR 1700.1, Chapter 10.4. This documentation may include the following:

- Configuration control documentation, including current facility drawings, equipment drawings, functional schematics, block drawings, and nonmetallic surveys
- General operating procedures that contain basic policies, describe the facility organization and responsibility, and outline how to collect and maintain baseline documentation
- Safety requirements and procedures that include emergency planning, certification of pressure systems and lifting equipment, calibration, testing involving human subjects, operations performed in vacuum or oxygen-enriched environments, and operations with hazardous materials
- Detailed procedures that describe system and machinery operations
- Hazard analyses for the facility, equipment, and systems that will be approved by JSC
- Failure modes and effects analyses for critical systems and subsystems
- Documented inspections
- Training documentation for personnel who are qualified to operate systems and equipment
- Preventive maintenance documentation for all critical systems and equipment
- Records generated from operational readiness inspections, test readiness reviews, approval of variances, and pressure systems certifications.

3.10 Preventive Maintenance

3.10.1 General

We will establish procedures for the equipment, systems, or facilities that require preventive maintenance procedures established to ensure completion and provide tracking. Employees will not conduct maintenance and repair on equipment such as lighting, structures, air conditioners, heaters, plumbing, office furniture, and copiers. It is, however, the responsibility of employees to ensure that this equipment is well maintained and to notify appropriate individuals if service, maintenance, or repair is needed.

For equipment, systems, and facilities that are the responsibility of the SAIC Team, we will give special attention to critical safety systems and equipment necessary to protect employees and property from potential damage and harm. We will identify and track all items requiring preventive maintenance to ensure

timely completion and to identify adverse trends. The CSR will review all safety alerts and safety flashes and take appropriate action when it affects SAIC Team-occupied facilities, equipment, or processes. When appropriate, the responsible manager or supervisor/section lead, supported by the CSR, will ensure adverse system or equipment experiences are documented in safety alerts and distributed to affected SAIC Team employees and the JSC Safety and Test Operations Division for further distribution.

3.10.2 Responsibilities

The individual assigned to a specific area or piece of equipment will be responsible for its maintenance. Employees assigned to perform maintenance will be trained and will follow safety procedures, such as Lock-out/Tag-out, if applicable, before performing maintenance.

3.10.3 Requirements

We will generate maintenance procedures for each piece of equipment for which periodic maintenance is required. We will add appropriate caution and warning statements will be added to the procedures where applicable. A maintenance schedule will be developed for each item and the manager or supervisor/section lead will assign employees to specific equipment, systems, or facilities. The responsible manager or supervisor/section lead will maintain a list of these assignments, review the maintenance schedule on a monthly basis and assign appropriate tasks to ensure that preventive maintenance is performed, keep a maintenance log on each maintenance item. The log will be checked during audits.

3.10.4 Records

The manager or supervisor/section lead responsible for the equipment, system, or facility will maintain the maintenance records. The CSR will keep additional records, if needed. All records will be made available to JSC for review upon request.

3.11 Medical (Occupational Health) Program

3.11.1 Purpose

SAIC Team employs a preventive approach to health maintenance and compliance with federal, state, and local requirements. This approach includes monitoring the health of employees who potentially may be exposed to workplace chemical or physical hazards. A comprehensive health maintenance program will address the elements necessary for implementing an effective program to ensure employee health. Medical surveillance will be performed including medical screening examinations, respirator fits tests, lead blood baseline tests, audiometric tests, and other surveillance measures as required to protect employees who could be exposed to hazardous or hazardous substances. It also shows that workers are physically and mentally fit to perform certain hazardous or critical operations and helps recognize and treat occupational illnesses and injuries. Medical surveillance includes identifying employees who need examination, assessing and documenting exposures, informing employees of results, training, and evaluating data for trends and subclinical effects of exposure.

SAIC Team will use a hazard-based method to decide which jobs or operations require medical surveillance. The need for medical surveillance is based primarily on exposures determined by task assessment (i.e., JHA) and industrial hygiene surveys. Employees will be required to have an examination because of their job or because of some task they do, such as wear a respirator. Employees will be under medical surveillance in the following situations:

■ The employee can be exposed to a hazardous material for 30 days out of the year at or above the action level set by the Occupational Health and Safety Administration or American Conference of Governmental Industrial Hygienists. This is usually half of the permissible exposure limit or the threshold limit value. ■ The employee is required by a standard that covers the chemical he or she will be working with. ■ The CSR decides the position will have an examination based on knowledge of the workplace, job requirements, and review of occupational history.

Medical surveillance will include baseline examinations, to determine employee suitability and to establish a baseline so medical personnel can evaluate any changes; periodic examination, done while performing in a specific task; termination examination, done at the permanent conclusion of potential exposure; and certification examination, done if a position might worsen an existing condition or to certify that an employee meets the health requirements of a position. This program complements the requirements of JSC Occupational Health Program and Occupational Medicine Program. At JSC, the Occupational Health Clinic provides occupational and emergency medical services for S&MA Contract employees located onsite at JSC. Contract employees offsite JSC will be sent to St. John's Hospital or the doctor of their choice.

Should a team employee be injured, the employee's manager or supervisor/section lead and the CSR will coordinate on case management actions appropriate for each individual case with the goal of returning a healthy employee to work as soon as appropriate and sound to do so. Detailed occupational medical procedures are in SAIC Procedure 12, Medical Surveillance.

3.11.2 Cardiopulmonary Resuscitation, First Aid, and Emergency Response

For emergencies that occur at JSC facilities, employees will use the JSC Health Clinic, and/or call the on-site emergency number (x33333). Individuals will not be expected or required to provide emergency response such as cardiopulmonary resuscitation (CPR) or first aid, unless they choose to do so. Safety representatives, fire wardens, and employees will be given the opportunity to attend first aid and CPR/automatic external defibrillator (AED) training on a voluntary basis. Specific procedures will be identified to ensure that employees are properly trained for emergency response for that location. First aid supplies will be posted in facilities where appropriate, given the potential hazards that may exist.

3.11.3 Return to Work

The SAIC Team will work closely with our workers compensation insurance carrier in implementing employee return to work initiatives. We will train

managers and supervisors/section leads in early return to work programs and how to consider their implementation. The CSR will coordinate with JSC Health Clinic on return to work and case management implementation and consideration.

3.12 Hazard Correction and Tracking

The SAIC Team will correct all identified S&H hazards in a timely manner and will follow the JSC hazard abatement process.. This process identifies the four required steps for hazard abatement: identifying the hazard, communicating the existence of the hazard, correcting the hazard, and posting of abatement plans. Hazards will have abatement plans developed and will be tracked to closure using the SATS database as well as JSC HATS. Simple hazards (e.g., most office hazards) that are easily corrected on the spot do not require notices and plans. We will communicate hazard controls, and corrective actions taken, to employees to ensure their awareness and proper implementation. For hazards requiring long-term corrective actions, we will implement interim corrective actions. We will communicate the JSC hazard abatement process to all managers, supervisors/section leads, and employees at orientation training.

3.12.1 Personnel Awareness of Hazards

We will communicate unsafe conditions and approved hazard controls to employees through direct management contact, training where necessary for proper implementation of procedural changes, posting of awareness warning signs and notices (JSC Form 1240), and the use of warning tags as applicable. Safety notices will be posted as soon as possible and within 15 calendar days of finding the hazard; health notices within 30 days. NASA will be informed of unsafe conditions and interim and final abatement actions using JSC hazard abatement process and guidelines for communication plans that provide direction for direct communication to the facility manager and JSC Environmental and Safety and Test Operations Divisions in addition to HATS entry. We will also coordinate with colocated civil servant and SAIC Team managers and supervisors/section leads. The CSR will be registered to receive lessons learned reports through the NASA Lessons Learned System and will enter any lessons learned from contract operations.

3.12.2 Interim and Final Abatement Plans

We will abate hazards using the design order of precedence (Paragraph 3.1) as a guide, with abatement actions developed as soon as it is feasible. Both final and interim abatement plans will have actions assigned and due dates established and tracked to completion. When the desired final abatement action will take longer than 30 days to implement, we will implement an interim abatement plan. We will develop interim abatement plans to provide for the safety of employees and operations but may not involve the full mitigation, such as an engineering change or process elimination. Final abatement plans will document the full mitigation actions. The responsible manager or supervisor/section lead and the CSR will review interim plans monthly. We will document all interim and final abatement plans and closure actions completed and identify to JSC using JSC hazard abatement process and HATS within 30

days of hazard identification. Employees will participate in this process. If a hazard cannot be corrected within 30 days, we will communicate an abatement plan to employees and other affected personnel using the JSC hazard abatement procedure communication guidelines.. It will provide a rationale for why the hazard cannot be abated quickly. This will be accomplished by posting JSC Form 1240 in the affected areas and through tracking and discussion of HATS items at the contract safety committee. The contracts tracking system (SATS) will complement JSC HATS system. Contract management will work closely with the facility managers to communicate hazards, develop abatement plans, implement interim and final abatement actions, and verify effectiveness of controls.

3.13 Disciplinary System

An employee or manager found to have violated safety procedures through negligence will be subject to disciplinary action up to, and including, dismissal. Discipline may include a letter to the personnel file, reassignment of duties and responsibilities, salary review impact, or dismissal. If an employee violates a safety or health policy or procedure, the appropriate manager will confer with the CSR, human resource manager, and the program manager to determine the level of reprimand and/or other discipline. The two types of violations that will result in some form of disciplinary action are as follows.

3.13.1 Minor Violation

A minor violation is an unintentional or negligent infraction that does not result in an injury or that would not require disclosure to a regulatory entity. Minor violations will be handled in the following manner:

- *First Violation*—The individual's manager will discuss the violation and related regulations with the affected employee and inform him or her that future violations may result in further disciplinary action up to, and including, termination. The manager will document the discussion, maintaining the documentation for possible future reference.
- *Second Violation*—The individual's manager will prepare a written letter of reprimand. Copies will be provided to the individual in question and sent through management to the appropriate company human resources office. The manager also may use the employee's performance appraisal to document unacceptable behavior. The individual's manager will discuss the violation and related regulations with the affected employee and inform him or her that future violations may result in further disciplinary action up to and including termination.
- *Third Violation*—The individual's manager will prepare a written reprimand advising the employee of 1 to 5 days of suspension with pay. Additionally, the employee may be required to complete an awareness-training program. Copies will be provided to the individual in question and sent through management to the Human Resources Office. The individual's manager will discuss the violation and related regulations with the affected employee and inform him or her that future violations may result in further disciplinary action up to and including termination. The individual's manager will acquire approval from appropriate corporate officials to terminate the employee with or without

separation pay

NOTE: Suspension will be in 8-hour increments.

3.13.2 Major Violation

A major violation is an infraction committed knowingly in an effort to circumvent established policies and procedures. A violation that would legally require disclosure to a regulatory entity, cause an injury, and/or result in an administrative order or financial penalty also would be considered major. The cited employee will receive disciplinary action up to and including dismissal as approved by corporate officials. Disciplinary action other than discharge will be suspension for a period of 1 to 5 days without pay. Suspensions with pay will be considered only in cases in which it can be established that the major violation was committed without intent. Administrative details will be accomplished in the manner described for minor violations.

3.14 Emergency Preparedness

The SAIC Team is committed to proactive emergency preparedness. The program manager will ensure that contingency plans and procedures are completed and that all employees are trained. These will be designed to support existing JSC procedures, drills, and building emergency action plans. *JSC Building Emergency Action Plans (BEAPs). BEAPs are required by JPR 1700.1 to identify all hazards and emergency procedures for the specific facility, including those that do not require evacuation.* We will develop all emergency procedures using JPR 1700.1 and JSC Emergency Preparedness Plan, JSC 05900 as a guide *and will be consistent with the applicable BEAP.* Plans and procedures will address individual operations and will contain instructions necessary to shut down rapidly and make operations safe to protect personnel and equipment. Procedures will address means of notification, evacuation routes, emergency and protective equipment locations, and responsibilities of all employees during emergency situations, *including emergencies that do not require building evacuation. These include medical emergencies, minor hazardous material releases, unplanned electrical outages, elevator failure, "shelter-in-place" responses, and security emergencies, as well as disasters, and adverse weather conditions.* SAIC Team employees will follow the instructions of JSC emergency services personnel, including those of the Houston fire department, hurricane ride-out team members, and representatives of JSC Safety and Test Operations Division.

All fires, medical emergencies, and bomb threats will be reported immediately to those in the immediate area, emergency services (dial 33333 as identified on JSC Emergency Card or 9-911 if offsite JSC), and management or CSR. The evacuation of the building will be signaled by voice, fire alarm, or a public-address system. Employees will not re-enter the building until an all-clear signal is received. The incident commander or fire officials will signal the all clear. Employees will evacuate the immediate area where a fire or medical emergency has taken place and from adjacent areas endangered by the occurrence. When an incident is so severe that it may endanger a major portion of the building or involve the entire building, the facility will be evacuated.

Emergency cards listing emergency instructions, emergency telephone numbers, and emergency signals will be posted throughout facilities. The CSR will complete all sections of the emergency card with site-specific information and post copies of the completed form throughout buildings. Fire wardens, alternate fire wardens, and assistant fire wardens will be assigned for each building and each floor or area. Fire wardens will assist facility service managers, as needed, to carry out the building emergency action plan. Fire wardens will attend training provided by the CSR. We will make special provisions for employees requiring evacuation assistance to ensure that they are safely evacuated. This includes assigning a buddy to assist when required.

3.14.1 General

All fires, medical emergencies, hazardous material events, and bomb threats are reported immediately to emergency services (x33333 at JSC and SCTF; x44444 at EFD) and the S&MA program manager or S&MA CSR. Personnel in facilities outside of NASA will dial 911 for emergency services.

Evacuation of the building is signaled by voice, fire alarm, or public address system. Employees are not to re-enter the building until an "all clear" signal is received. The incident commander or fire officials will signal the all clear.

Employees will be evacuated from the immediate area where a fire or medical emergency has taken place and from adjacent areas that may be endangered by the occurrence.

When an incident is so severe that it may endanger a major portion of the building or involve the entire building, the facility will be evacuated.

Emergency cards listing emergency instructions, emergency telephone numbers, and emergency signals will be posted throughout the building.

Figure3-1 represents a sample of this emergency card.

Fire wardens, alternate fire wardens, and assistant fire wardens are provided for each JSC facility. At JSC, the primary or alternate facility manager serves as the facility chief fire warden. He or she will appoint as many assistant fire wardens as needed to carry out the building emergency evacuation plan.

In Case of Emergency	
Emergency Telephone	Dial 911 or, at JSC and SCTF, dial 33333. or at EF, dial 44444
Fire	1. Evacuate immediate area 2. Dial emergency number 3. Attempt to control fire if safe to do so
Medical	1. Do not move victim (except for safety reasons) 2. Dial emergency number
Hazardous Material Event	1. Evacuate immediate area 2. Dial emergency number 3. Contact cognizant manager and the Safety Office
Evacuation Signal: Fire alarm, building public address system, and voice	

Figure 3-1. Emergency Card

3.14.2 Emergency Preparedness Procedures

SAIC Team will develop procedures, assign responsibilities, and train employees for dealing with a variety of emergencies including fires, bomb threats, severe weather, and earthquakes. Procedures and training will include actions expected of managers and employees and responsibilities for coordinating with JSC, local officials, and corporate safety and health officials.

Fire. Procedures will cover fire or suspected fire in any JSC facility workplace. An employee who discovers a fire reports or directs another employee to report the fire and exact location to emergency services by dialing the Emergency number (x33333 or 9-911). Employees in the vicinity of a fire may attempt to extinguish the fire with available extinguishers only if they have been formally trained to use extinguishers and only if it can be done safely when, or after, the emergency services have been notified. All employees not assisting in extinguishing a fire will leave the area by the nearest and safest evacuation route in an orderly manner and gather at the designated rendezvous area. Employees will report any smoke or smell of smoke to the emergency number even if no fire is apparent.

Severe Weather. Severe weather represents one of the most serious threats to SAIC Team employees at JSC. Procedures will provide for the protection of personnel, facilities, and equipment should severe weather become threatening. In such cases, the program manager will be authorized to release employees and discontinue operations after consulting with JSC officials.

To provide for the protection of personnel, facilities, and equipment should a hurricane or other severe weather threaten, we will develop an SAIC Team Hurricane/Severe Weather Plan to implement hurricane/severe weather plans at all contract locations. This plan details the steps that will be taken to protect the employees, property, equipment, and the procedures to be followed after an emergency to resume normal contract operations. This plan will be tailored to implement the existing JSC site plans.

Should severe weather threaten, the program manager is authorized to release employees and discontinue operations. Managers will be encouraged to honor

liberal leave policies to allow employees to secure their personal property and to evacuate their families in advance of community warnings. However, employees may be asked to make certain preparations prior to their departure. In the event of a severe weather/hurricane alert, employees will be asked to unplug all electrical equipment, unplug personal computers and other electronic equipment and wrap them in plastic bags, close all doors, secure all valuable papers and classified materials, remove bottom file drawers and place them on desks or tables, and raise Venetian blinds to near the top of the windows. Other employee general responsibilities include keeping informed of emergency action plans regarding hurricanes/severe weather and keeping informed of anticipated local weather conditions and the status of the plan implementation by dialing the following numbers: Employee News Service 281-483-6765 and/or JSC Emergency Information Line 281-483-3351. SAIC Team employees can contact the SAIC Business Continuity information line at 1-888-826-7377.

Employees are encouraged to take measures to protect their homes before hurricane season begins. This includes collecting ample materials to board windows or otherwise protect their homes from wind and rain damage.

Hazardous Material Event. All employees are trained in JSC HAZCOM training. Employees will, in the event of a release/spill or activity resulting in the potential exposure of people directly or indirectly to hazardous material, activate area alarms if evacuation is required, evacuate the area if required, make the appropriate phone notification from a safe location (dial x33333 or 9-911), notify the area supervisor/section lead, and terminate the operation and stop the source of the spill or leak, if this is possible without risk of injury.

Bomb Threat. Employees will take immediate action to report bomb threats and will follow detailed procedures to obtain information. Employees will notify their manager or supervisor/section lead and will call x33333 or 9-911 if offsite. Bomb threat guides will be provided for every employee and will be located throughout workplaces. Management, fire-protection services, working in conjunction with JSC management and local authorities, will determine whether to evacuate buildings.

3.14.3 Emergency Reporting

Employees will report emergencies immediately to the emergency number (x33333 or 9-911 offsite) listed on the site-specific emergency card, to employees in the area, and to management. Reporting will include employee name, the exact location of the emergency, and nature of the emergency. Employees reporting emergencies will be trained to stay on the line unless immediate evacuation is necessary.

3.14.4 Emergency Evacuation

When instructions are given to evacuate the area or building, employees will shut down equipment that may create a hazard or cause damage if left unattended and close all doors to work areas. They will exit the building in an orderly manner by the nearest and safest evacuation route and meet at the designated rendezvous or safe area. Exit route diagrams are posted in the hallways of JSC facilities. Once at the rendezvous location, employees will sign

the Building Evacuation Accountability Record-JSC Form 2150. Completed forms are provided to the CSR, the Facility Manager, and training. Employees will remain in the rendezvous area until an all-clear is signaled or a management decision is made to leave the area. Employees requiring evacuation assistance during evacuation will be assigned a buddy to assist them to the designated primary or alternate building/floor area of rescue assistance as marked in each facility. Examples of physical conditions, either temporary or permanent, that may hinder an employee's evacuation and would require assistance, include use of wheelchair, crutches, or walkers, hearing or visual impairments, pregnancy (second to third trimester), heart or lung conditions, temporary injuries, or other disabilities hindering mobility.

3.14.5 Employee Education and Drills

Managers and supervisors/section leads are responsible for training employees in emergency procedures. A thorough understanding of reporting, actions, and evacuation procedures is required to avoid confusion during an actual emergency. We will train employees annually and new employees and temporaries at the time of initial assignment. We will document annual employee training on the evacuation accountability form (JSC Form 2150), which will be recorded in employee training plans, with a copy forwarded to the CSR and facility manager. We will document new hire and temporary employee training on the Orientation Acknowledgment Form, which will be documented in employee training plans with a copy forwarded to the CSR.

Training will concentrate on immediate action and reporting to be taken in the event of a fire or medical emergency; identification of equipment in a work area that is to be shut down in an emergency, if it can be done safely; location of fire extinguishers, fire blankets, and any other emergency equipment in the employees' work area; the method by which employees will be notified of an emergency, including the facility and a site warning system; and identification of evacuation routes and emergency evacuation assembly points.

There will be at least one fire drill per calendar year (in coordination with JSC Fire Protection). All drills and an evaluation of the drill should be documented and a copy sent to the CSR.

3.14.6 Responsibilities

Program Manager, Managers, and Supervisors/Section Leads. Managers and super-visors/section leads will have a thorough understanding of emergency procedures and conduct employee training, education, and drills. They will be responsible for ensuring that employees are aware of designated assembly areas, evacuate employees in the event of an emergency, account for employees, report results to emergency services (e.g., fire officials), and assign specific actions to ensure safe evacuation of employees needing evacuation assistance.

Contract Safety Representative. The CSR will ensure emergency numbers are posted throughout SAIC Team facilities. The CSR will also ensure that all employees have been adequately trained in emergency procedures and that training has been documented.

Employees. Employees will be expected to report emergencies promptly; be knowledgeable of emergency procedures and building emergency action plans, evacuation routes, and assembly areas; follow evacuation procedures; and sign the evacuation accountability form. Employees are encouraged to prepare their homes for severe weather or other emergencies (home evacuation plans, personal hurricane evacuation plan, etc.).

Fire Wardens. Fire wardens will be assigned to enforce safety rules and ensure that employees follow the building emergency action plan. These individuals will support the safety department and the facility manager in developing evacuation plans, ensuring evacuation during alarms, and conducting fire inspections of their areas. They also will ensure that all persons requiring assistance during evacuation are assigned a buddy and alternate, if necessary. They will assist the manager or supervisor/section lead in completing the evacuation accountability form.

4. Safety and Health Training

4.1 General

The program manager will ensure that all employees receive proper training to facilitate a thorough understanding of safe work practices, hazard recognition, and the appropriate response to non-routine situations or emergencies. This includes safety orientation, hazard recognition, accident reporting, emergency evacuation procedures, and the specific procedures containing caution and warning information, emergency stop or back-out steps, and PPE requirements for specific assignments. The SAIC Team will provide training upon hire, prior to reassignment, and at regular intervals for refresher training to ensure employee understanding and retention. The CSR will assess JSC training resources against training requirements. The SAIC Team will use JSC resources where practical to ensure consistency of training among the multiple on-site organizations. Employee training classes available include those through JSC Safety Learning Center, the NASA Safety Training Center, and occupational health on-site organizations. Training areas in which central training is required for consistent implementation across on-site organizations include JSC hazard communication and emergency response, asbestos worker training and certification, confined space entry, and lock-out and tag-out. We will provide certification classes required for certain tasks, and our employees will attend as required by this plan and JPR 1700.1. We will make available all safety training materials and documentation to NASA and other government agencies for review upon request.

The program manager and CSR will ensure that all employees receive safety orientation and document orientation activities. They also are responsible for ensuring that formal training is provided and conducted on a periodic basis as determined by managers and supervisors and the CSR. The SAIC Team has developed a safety and health training questionnaire to serve as a tool for assessing employee activities and environmental, health, and safety training needs (see Appendix D).

4.2 Training Needs Assessment

Training Requirements. The SAIC Team will determine training requirements by reviewing applicable requirements, safety and health training questionnaire results, hazard analysis data, injury and illness statistics, training records, audits, mishap data, trend data, and surveillance of all operations. Job training will include curricula such as job hazards; work environment hazards; use of protective equipment and procedures; location and use of emergency equipment (with hands-on evaluations); emergency, protective, and first-aid procedures that are applicable to the task and environment; how to report work-related injuries and illnesses; how to identify and report hazards to proper authorities; and safety and health standards and practices that are applicable to the job, such as safety representative certification, fire warden training, lock-out and tag-out, PPE, radiation safety, hazard communication, and hazardous waste management.

Training Frequency. Frequency of training is based on need in relation to changing equipment, procedures, regulations, processes, and the potential for accident or injury. The following situations indicate that the SAIC Team should conduct refresher training:

- Introduction of new equipment or processes

- Revision of standard operating procedures
- Employee performance needs improvement
- Employee has difficulty remembering important safety information
- Supervisors/section leads and managers notice increased injury and illness rates, unsafe work practices, or close calls.
- Identification of new or revised federal, state, or local standards.
- Revision of S&H compliance policies.

Training Methods. The SAIC Team can conduct safety training through formal classroom training, online courses, use of JSC resources, NASA Safety Training Center, or through on-the-job instructions. We evaluate training effectiveness for all teaching methods through post-training testing, manager or supervisor/section lead performance observation, and injury and illness statistics.

4.2.1 Training Records

The SAIC Team documents training through a tracking system. All training documentation includes the names of all attendees, date and time of the training, and course outlines and lesson plans. If external sources provide training, the employee(s) will submit course material and the names of the course provider and instructor. We also document training within the Learner tracking system that provides monthly training reports for managers' review to ensure that all personnel are completing the required training for applicable job tasks and S&H training metrics are maintained on InSITE. The SAIC Team will submit all training materials and records to NASA, and other federal, state, and local agencies for their review upon request, and through InSITE.

4.2.2 Training Certifications

SAIC Team personnel may need to obtain certifications before they can perform assigned tasks that require certification. The Performance Management Office (PMO) maintains a list of all processes that require such certification, and those requirements are added to the individual's training plan, consistent with JPR 1700.1 requirements. We conduct an annual review to ensure that employees meet requirements for refresher training, physical requirements such as medical exams, and manager observations, if required, to ensure individuals maintain qualifications for certification.

4.3 Personal Protective Equipment

The CSR will administer PPE requirements through work area hazard assessments, review and approval of procedures, equipment purchase and use approval, and training programs. We will provide training to personnel who are required to use PPE in the selection, use, limitations, care, disposal and replacement prior to use on the job. Managers, supervisors/section leads, and the CSR will ensure that PPE is provided as specified in work procedures and specific job training, and that employees wear that equipment. PPE will be used only as a supplemental control measure where hazards cannot be totally eliminated. The PPE program will implement OSHA and JSC

requirements such as the JSC respiratory protection program, hearing conservation program, eye and face protection, etc.

4.4 Manager, Supervisor/Section Lead, and Employee S&H Training

4.4.1 Managers and Supervisors/Section Leads

The SAIC Team will provide training for managers and supervisors/section leads specific to their assigned tasks and level of responsibility, including orientation to the S&H program and manager and supervisor/section lead responsibilities; operational hazards and risks; OSHA Voluntary Protection Program (VPP) principles; safety leadership; benchmarking; and operational risk management and program management training such as Dupont safety operations, corporate safety and health leadership and implementation, and continuing education topics.

4.4.2 Employees

Each employee will have a training plan tailored for his or her position that includes core training requirements such as JSC hazard communication, safety and health program orientation, emergency procedures and HAZWOPER first responder, OSHA VPP, hazard recognition, as well as job specific requirements such as PPE, hazardous work procedures, and medical surveillance requirements. See **figure 4-1** for additional information regarding training requirements. Employees will be trained not to perform tasks unless they have the necessary training to properly execute that task. Employees will be encouraged to make suggestions for training improvement and to serve as trainers for safety topics.

Core Safety Training Requirements	Specialized Requirements
<ul style="list-style-type: none"> ● S&MA SSC/JSC Safety and Health Program Orientation ● Mishap, Close Call, and Off-The-Job Incident Reporting ● JSC HAZCOM/First Responder ● Site/Area Specific Hazards and Chemical Safety ● OSHA VPP Training ● General Office Safety and Office JHA ● Slip, Trip, and Fall Prevention ● Office Ergonomics ● Personal Protective Equipment ● Asbestos in the Workplace ● Lock-out/Tag-out Orientation ● Environmental Management ● Office Space Job Hazard Analysis 	<ul style="list-style-type: none"> ● Examples: ● Personal Protective Equipment ● RITF Chemical Hygiene Plan ● Lock-out/Tag-out Performance ● Confined Space Entry ● Explosives and Propellant Safety ● Respiratory Protection ● Laboratory Safety (RITF) ● Hazardous Materials Safety ● Job Hazards Analysis for QA/QC ● Hazardous/Test Area Safety ● Special Certifications ● Incident Command System

4.4.3 Responsibilities

■ S&MA SSC CSR

- Provides a safety and health orientation course that addresses the contents of the S&H Plan, which is presented to each new or temporary employee during orientation
- Obtains a signed acknowledgment that certifies each employee has reviewed and understands the applicable contents of this manual
- Develops training for employees as necessary
- Provides surveillance of S&MA SSC operations to measure safety training retention and practice; and provides feedback to management on refresher training requirements.

- **Managers and Supervisors/Section Leads** - Ensures that no new or temporary employee begins any work assignment without first reviewing the applicable contract S&H Plan; and employee signs acknowledgment form. - Ensures that all employees receive required safety training prior to beginning a new task. - Ensures that personnel performing tasks requiring special certifications have completed the requisite training and possess current certification. - Provides management surveillance to identify any potential lapse in safety training retention or practice; and ensure that employees receive refresher training as necessary.

4.5 Personnel Certification

Certain tasks, such as hazardous waste management, respirator operation, and self-contained atmospheric protective operations, are significantly hazardous to require special training prior to permitting an employee to perform these functions. We will document certification requirements and completion of required training in the employee's training plan. When training is completed, employees are tested with a physical exam, written test, a period of on-the-job training, or a combination of the three. Employees who pass the tests will be evaluated for certification by the area supervisor, the CSR, and other personnel as deemed necessary for their specific operation or area. We will track certification status in the Learner training database. All certifications require periodic renewal by demonstrating continued operational knowledge and proficiency.

4.6 Safety and Health Training Resources

The SAIC Team has access to environmental, safety, and health resources such as the safety and total health Web site administered by JSC; weekly and monthly corporate regulatory notices; corporate-funded workshops; and a pool of subject matter experts who are available to answer questions on a variety of specific technical disciplines. The primary sources for safety, and health training will be JSC Safety Learning Center, NASA Safety Training Center, Occupational Health Services, and other JSC resources. This will ensure consistency of training provided across JSC multiple employer work environment. For internal and procured training from other than JSC resources to meet regulatory mandated training, we will secure an agreement with JSC Safety and Test Operations Division and Occupational Health and Test Support Office prior to an employee beginning such a training course. SAIC will ensure the use of JSC safety and health training resources where appropriate.

4.7 Training Records and Materials

Training records will include the names of all attendees, date and time of the training, and course outlines and lesson plans. The SAIC Team will use the Learner training database system to track required training by position; document completed training; and ensure employees are notified about recurrent training requirements. Learner also provides desktop-accessible training reports for manager and employee review at any time to ensure that all personnel are completing the job training required to perform employee tasks. These reports and S&H training metrics also are maintained on InSITE for ease of reference and communication with the management team, employees, and NASA. The SAIC Team will provide all training materials and records to NASA, and

other federal, state, and local agencies for their review upon request.

Appendix A. SAIC Safety and Health Program Status and Approach to Achieve and Maintain Level 5 of the PEP in All Areas

PEP Element	Status	Supporting Rationale	Plan to Achieve a Level 5
Inspection	5	<p>are tracked through JSC HATS systems. All hazard analyses are made available and communicated directly to affected employees when appropriate. The contract is well staffed with trained safety professionals to perform initial and subsequent surveys. Employees are encouraged to identify hazards in the workplace and participate in this activity.</p> <p>All of the activities listed above in the survey and hazard analysis category apply. Certified safety professionals and trained employees perform inspections of all contract spaces on a quarterly basis. High-hazard areas, such as the RITF laboratory, are inspected on a more frequent basis consistent with the level of SH&E risk. Standard checklists and inspection forms are used to document key findings and observations. We track all inspection findings to closure using a safety action tracking system. Where required, they are tracked through the JSC HATS systems.</p>	<p>regarding contract spaces. This includes the RITF, which we consider our highest risk facility. We will document findings and implement corrections in a timely manner; management will be accountable for these actions. Workplace audits will begin during phase-in and we will complete initial surveys of all workplaces within 30 days of contract start. Job safety analyses will begin following initial workplace surveys. A schedule grouping jobs by type will target completion of all job safety analyses within 90 days of contract start.</p> <p>To maintain a Level 5 rating, we will establish inspection schedules that will begin in the initial months of the contract. Employee representatives will be selected and trained to participate in audits and inspections. We will document findings and corrective actions for initial inspections and make them available to employees and management. Results will be analyzed and trends identified for management review and action, and to identify areas of focus for continuing improvement. All activities will be implemented within the next 12 months</p>
Hazard Reporting	5	<p>This plan establishes a process to identify and eliminate hazards. Employees are informed of existing systems available for hazard reporting, including close call reporting, stop-work calls, and communication with facility managers. We will complete hazard reports and corrective actions in a timely manner and provide documentation.</p>	<p>The written process outlined in this Safety and Health Plan will continue to be implemented for the S&MA contract. Employees will be trained to report hazards and expect closeout information in a timely manner. Open hazards will be posted to warn employees and will be periodically reviewed by management. These activities will be implemented at contract start.</p>
Accident and Record Analysis			
Mishap Investigation	4	<p>The SAIC Team has established in this plan to investigate all close calls, including high risk potential close calls. The SAIC Team currently performs investigations of all incidents to identify root causes, and develop action plans for corrective action and recurrence prevention. This information, along with close call reports and hazard reports, is shared with employee safety committees and made available to all employees through InSITE. Managers are responsible for conducting investigations, assisted by and reviewed by qualified safety and health professionals. Employee participation is encouraged and rewarded through recognition awards for reporting close calls and hazards.</p>	<p>To achieve a Level 5, the SAIC Team will fully implement the applicable written procedures identified in this plan, and ensure that all incidents, from close call to lost-time, are effectively investigated and reported according to JSC, NASA, and OSHA requirements. We will track injury and close call trends, using processes established in this plan and currently used by the SAIC Team. These procedures will become effective immediately upon contract initiation, and monitoring of the investigation process will be conducted during the following 12 months.</p>

PEP Element	Status	Supporting Rationale	Plan to Achieve a Level 5
Data Analysis	4	The program manager has responsibility and accountability for safety and health, and is responsive to trend data resulting from injury and close calls, from mishap investigations, and other SH&E data collection and analyses. Audit findings, accident trends, and other safety and health information will be communicated directly to employees by line management and will be available through InSITE. Databases that are established for tracking audit findings also will be used to identify potential hazard sources. A trained safety professional will collect and maintain injury and illness data.	To achieve a Level 5, all accident statistics will be documented and provided to NASA on a monthly basis. All SH&E measures and data collected will be analyzed to obtain meaningful reports to improve SH&E performance and to reduce potential hazards in the workplace. Performance measures (leading and trailing) and trending analysis will be conducted and communicated to management and employees on a monthly basis and to NASA in monthly reports, and on request. Trends to measure program effectiveness will be addressed with action plans for corrective action and continuous improvement. All of these activities will be ongoing throughout the first 12 months of the contract.
Hazard Prevention and Control			
Hazard Control	4	The SAIC Team requires strict compliance with all OSHA, NASA, JSC, and company safety rules and regulations. We will use engineering controls as the preferred method of eliminating hazards and routinely inspect safety equipment to ensure proper calibration and operation. We have evaluated existing safety programs and those proposed for implementation under the new contract and have determined that they meet or exceed requirements.	We will implement the following actions to achieve a Level 5 for this element: continuously evaluate all hazard controls to ensure effective design and elimination of hazards. We will evaluate safety controls in use for continued effectiveness and applicability to the contract. We will baseline components and controls deemed acceptable and we will develop new procedures when needed to ensure employee safety. Certified health and safety professionals will conduct periodic reviews of program elements, facilities, and hazard controls. The SAIC Team will make available adequate funding to support an effective safety program. All of these activities will be ongoing throughout the first 12 months of the contract.
Maintenance	4	Preventive maintenance of equipment and tools is recognized as a critical element to prevent injury and continue safe contract operations. We plan to continue implementation of the existing S&MA operations preventive maintenance program. Specifically the RITF maintains a maintenance database, assigns responsibility, schedules and tracks completion, and maintains maintenance and lockout/tagout (LOTO) procedures for each piece of equipment requiring RITF maintenance. The SAIC Team identifies its equipment and maintains servicing schedules for equipment that needs service to ensure equipment is safe and serviceable. Employees are trained through procedures and on-the-job training to check safety devices prior to operation and to perform designated preoperational checks on equipment used in hazardous operations.	To achieve a Level 5, we will identify and document all equipment to be serviced and maintained under the contract; develop a schedule to perform tasks including specific maintenance, calibration, or other tasks. Employee training will specifically address preventive maintenance and daily inspection of all equipment for appropriate safety devices and overall working condition. We will provide specific on-the-job training to all operators of equipment used in hazardous operations that will be used in conjunction with standard operating procedures and placards, as required, to perform preoperational maintenance and inspections. These activities will be conducted as equipment is purchased or inherited by the contract. We will develop and document schedule and specific maintenance tasks when first identified and no later than the first six months of the contract.

PPE Element	Score	Supporting Rationale	Plan to Achieve a Level 5
Medical Program	4	Employees who need treatment for occupational injuries and illnesses will use the on-site JSC clinic facility. The clinic will be used to provide medical surveillance when needed (such as pulmonary function tests and medical evaluations to ensure fitness to use a respirator). We will use the industrial hygiene services available to all JSC functions under this contract to evaluate indoor air quality, chemical exposure, ventilation performance, and asbestos concerns, which is consistent with its current use. Employees will be housed in JSC facilities, where a history of industrial hygiene services and hazards review exists. Employees will be informed of any specific hazards associated with workspaces and hazard-abatement procedures where applicable. We will continue to implement the existing PPE program, which is contained in this plan.	To achieve a Level 5, information such as air-monitoring reports, ventilation surveys, and hazards analysis that are available for all work spaces will be reviewed and repeated if necessary. We will use certified safety and health professionals to conduct and evaluate these assessments. For any deficiencies or substandard conditions found, we will take immediate action to correct those issues and restore a healthy work environment. Employees will be informed of all medical services available both on-site and off-site, as well as medical surveillance necessary to perform specific job tasks. Our written respiratory program is compliant with the new OSHA standard and will be implemented when necessary. We will conduct PPE assessments of all hazardous areas and will document appropriate PPE selected and its use enforced based on the level of exposure. All of these activities will be conducted within the initial months of the contract.
Emergency Response			
Emergency Preparedness	4	Emergency response plans have been developed for the SAIC Team JSC operations and specific procedures have been communicated to employees through new employee training, refresher training, and information booklets. This includes a contract severe weather and disaster plan, contingency action plan, and communication and incorporation of JSC Building emergency action plans. Building fire wardens currently are chosen for all areas and floors occupied by the SAIC Team, and alternates are chosen to ensure accountability in an emergency. We have chosen designated rendezvous locations congruent with locations recommended by facility managers. Emergency response teams are provided by JSC, and SAIC Team employees are trained to use JSC emergency telephone numbers to summon assistance.	To achieve a Level 5, SAIC Team will ensure that building fire wardens are chosen for each floor of each building occupied by the contract employees. Fire wardens will be responsible for selecting alternates and ensuring that persons requiring special evacuation assistance are accounted for in developing evacuation plans. Drills will be conducted as needed, but at least annually, for all potential emergency situations including fire, chemical spill, bomb threat, Hurricane, tornado, floods and Shelter in place. Special provisions will be made, including instituting a buddy system, to ensure that employees requiring assistance during real or drill evacuations are evacuated safely. The results of each fire drill conducted on on-site contract facilities will be reviewed with employees. We will choose emergency evacuation plans and fire wardens within the first month of the contract. Evacuation procedures (if they do not now exist) will be developed by the end of the second month. Training will be conducted between months two and six, and drills will begin after month six.
First Aid	5	On-site medical facilities provided by JSC Clinic facility are in close proximity to primary work areas to handle any major or minor emergencies. SAIC Team employees are currently certified as JSC CPR and AED operators and will continue to be encouraged to at-	To maintain a Level 5, contract employees will be given opportunities to voluntarily complete first aid and CPR and AED training. Employees will be trained to notify the on-site JSC emergency telephone number to summon immediate assistance, and use the JSC clinic to handle non-

PEP Element	Status	Supporting Rationale	Plan to Achieve a Level 5
Safety and Health Training	5	<p>tend first aid and CPR and AED training.</p> <p>The SAIC Team will continue its effective safety and health training programs at JSC for this contract. We will use certified safety and health professionals with appropriate expertise to provide safety training for employees, including procedures for reporting injuries, notifying management of hazards, OSHA standards, and OSHA rights. All training, including safety training, is listed in the online training information system for documenting available, scheduled, and completed courses. Management currently is responsible for establishing training plans that are consistent with employee job tasks and job hazards.</p>	<p>emergency medical situations. The clinic will be used to conduct medical surveillance as necessary for specific hazards. All elements will be implemented within the first 12 months of the contract.</p> <p>To maintain Level 5, we will continue to implement available and successful training and tracking systems. New employee training, including SH&E, will be documented. Training will be conducted by safety and health professionals with specific expertise in areas such as lock-out/tag-out, fire safety, hazard communication, emergency response, and other components relevant to the S&MA mission. Management will exercise responsibility for developing training plans specific for each employee based on job tasks and job hazards analysis. Training will begin during orientation. A detailed schedule for developing and implementing additional training based on job safety analysis and workplace surveys will be developed by the first month of the contract.</p>

Appendix B. SAIC Safety and Health Program Risk and Mitigation

Risk Factor	Potential Risk	Risk Mitigation
Management	Management leadership and employee participation function ineffective.	<ul style="list-style-type: none"> ● Integration of safety and health into management processes. ● Tasking of managers with safety and health responsibility. ● Inclusion of safety and health into manager and employee performance plans and compensation criteria. ● Employee involvement facilitated and expectations clearly set. ● Management of program through leading metrics. ● Local SAIC Team safety resources at JSC.
Management	Staffing is inadequate to implement safety and health approach.	<ul style="list-style-type: none"> ● Experienced certified safety professional assigned in preparation and will continue through phase-in and into contract implementation. ● Experienced SH&E corporate resources readily available.
Safety	Work site analysis process not complete; hazards not identified.	<ul style="list-style-type: none"> ● Workplace analysis process and procedures defined. ● Baseline surveys and audits performed during phase-in. ● Requirement for 100% workplace audit each quarter. ● Process for identifying and tracking hazards to closure. ● Employees trained in hazard recognition and reporting.
Safety	Hazard prevention and control processes do not function effectively.	<ul style="list-style-type: none"> ● Workplace analysis scheduled for phase-in. ● Job safety analyses review and update complete in first contract month. ● More frequent audits until job safety analyses are complete. ● Preoperational safety and procedure reviews to ensure effective controls are in place.
Safety	Emergency response process does not function effectively.	<ul style="list-style-type: none"> ● Response process is defined. Managers and employees will be trained during phase-in. ● Fire wardens selected and trained during phase-in. ● CSR establishes coordination with JSC emergency response representatives.
Safety	Hazardous materials and waste not handled correctly.	<ul style="list-style-type: none"> ● SAIC Commodity Energetic Response Team (CERT) in place. ● Cradle-to-grave process defined. ● Waste stream identification and hazardous material inventory to be verified during phase-in. ● Training conducted during phase-in. All processes audited for compliance in first quarter of operations.
Safety	Job medical requirements not addressed; JSC Health Clinic emergency and occupational health services not identified to employees.	<ul style="list-style-type: none"> ● Positions requiring medical surveillance or physicals identified. ● CSR to establish contact with JSC Clinic. ● Employees trained in offsite clinic services and onsite JSC Clinic services and requirements during phase-in.
Safety	Preventive maintenance not performed or tracked.	<ul style="list-style-type: none"> ● Equipment, systems, facilities preventive maintenance requirements identified and responsibility assigned during phase-in. ● Preventive maintenance procedure in place. ● Preventive maintenance addressed as phase-in checklist item. Procedures audited in first month.
Safety	Training program fails to equip employees to implement safety and health approach.	<ul style="list-style-type: none"> ● Safety and health training assessment completed. ● Training program is defined for managers, supervisors, and employees. ● Emergency procedures, JSC HAZCOM, hazardous operations

		procedures, and PPE training completed prior to operations.
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Appendix C. Compliance and Reference Documents

C.1 Compliance Documents

The following contract compliance documents, and subsequent revisions, are applicable to the S&MA Safety and Health program:

■ JPR 1700.1 JSC Safety and Total Health Handbook ■ JMI 1800.1 JSC Occupational Medicine Program ■ JPD 8800.1 Policy for Real Property Management ■ JHB 4300.2 Property Excess and Disposal User's Manual ■ JHB 8800.6 Asbestos Control Manual ■ JSC 17773 Preparing of Hazard Analysis for JSC Ground Operations ■ NPD 8710.2 NASA Safety and Health Program Policy ■ NPG 8715.1 NASA Safety and Health Handbook Occupational Safety and Health

Programs ■ NPG 8715.3 NASA Safety Manual ■ NPG 1800.1 NASA Occupational Health Program Procedures ■ NPG 1820.1 Hearing Conservation ■ NPG 8621.1 NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Record Keeping

C.2 Reference Documents

The following documents and subsequent revisions also will be consulted during the implementation and administration of the Safety and Health program:

■ NPD 1800.2 NASA Occupational Health Program ■ NPD 1810.2 NASA Occupational Medicine Program ■ NPD 1820.1 NASA Environmental Health Program ■ NASA STD-3000 Man-Systems Integration Standards ■ OSHA Standards 29 CFR, Part 1910, General Industry, Part 1926, Construction ■ Environmental Protection Agency Laws and Regulations ■ National Electric Code ■ National Fire Codes and Standards (NFPA) ■ American National Standards Institute ■ Safety and Test Operations Division (NS), Mishap Investigation Guidebook

C.3 SAIC Procedures

The following are SAIC Environmental, Health and Safety (EH&S) Plan corporate procedures that are tailored to the JSC environment that are applicable to the entire SAIC Team. They are available to all employees on the InSITE system. These procedures are maintained at the corporate level to reflect the most current regulations and standards. The SAIC EH&S corporate office sends updates to the CSR for appropriate updating of the SAIC Team JSC site procedures. A description of each procedure is contained in paragraph 3.3.4.

Procedure	Title
1.0	Location Specific EH&S Policy and Responsibilities
2.0	Emergency Procedures
3.0	EH&S Audits
4.0	Reporting Requirements for Mishaps and Recognized Hazards
5.0	Safety Orientation and Training
6.0	OSHA recordkeeping and Reporting
7.0	Hazardous Waste Management
8.0	Hazard Communications and Hazardous Material Control
9.0	Respiratory Protection Program

Procedure	Title
10.0	Confined Space Entry
11.0	Lock-out/Tag-out
12.0	Medical Surveillance
13.0	Personal Protective Equipment
14.0	Chemical Hygiene Plan and Laboratory Safety Program
15.0	Hearing Conservation and Noise Control
16.0	Injury and Illness Prevention Program (California)
17.0	Laser Safety Procedure
18.0	Corporate Records Management
19.0	Radiation Protection
20.0	Hazardous Waste Disposal
21.0	Water Quality and Permit Compliance
22.0	Air Quality and Permit Compliance
23.0	Emergency Planning and Community Right-to-Know Compliance
24.0	Regulatory Agency Inspections and Incident Reporting
26.0	Powered Industrial Trucks
27.0	Universal Waste Management
28.0	Hazardous Material Transportation
S1	Hazard Analysis
S2	General Office and Site Safety
S3	Hazardous Operations
S4	Safety Committee
S5	Shop Safety
S6	Safety and Health Program Metrics
S7	Standards and Variances
S8	Stop Work
S9	Electrical Safety
S10	Fire Prevention and Protection
S11	Ladders, Stairways, Elevated Working Levels, and Scaffolds
S13	Blood borne Pathogens
S14	Plant Construction, Renovation, and Personnel Relocation (Facility Baseline Documentation)
S15	Cryogenics
S16	Ergonomics
S17	Preventive Maintenance
C1	Corporate Audit Checklist
C2	Corporate Discipline
C3	Pollution Prevention
C4	Corporate Training
C5	Information System

Appendix D. Safety and Health Training Questionnaire

Subject: Safety and Health Training Questionnaire

The attached safety and health training questionnaire has been developed to serve as a baseline to assess employee activities and S&H safety training needs. The questionnaire can be provided to individual employees for completion, or to the supervisor of a group of employees with similar work activities and exposures.

The questionnaire has been designed to address a broad range of work activities, exposures, and training needs. It does not, however, provide sufficient inquiry into all work environments or tasks and, therefore, should not be relied on as the sole means of evaluating or assessing hazards to which employees are or may be exposed. We recommend using the checklist in conjunction with other ongoing work assessment or evaluation tools (for example, site visits and tours, statements of work, task order reviews, and verbal communications with managers) to ensure that training needs are addressed.

We will use responses to the questionnaire to develop a training requirements matrix to facilitate the tracking of training required or received. A sample format for organizing this information is included as an attachment to this memo. The organization of training requirements and records in this manner will simplify the task of tracking individual employee training needs and status, and serve as an invaluable means of demonstrating compliance. To facilitate use and ease of tailoring, the questionnaire and example training matrix are available in a Microsoft Word file (TrainingQues0698.doc) on InSITE or by contacting the contract safety representative.

If you have any questions regarding the content of the questionnaire, please call your contract safety representative.

We welcome your input on how to improve the training questionnaire content or format. Attachments Safety and Health Training Questionnaire To determine training needs, simply answer the questions.

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Subject: Safety and Health Training Questionnaire

The attached Safety and Health Training Questionnaire has been developed to serve as a baseline assessing employee activities and safety, health, and environmental safety training needs. The questionnaire can be provided to individual employees for completion, or to the supervisor of a group of employees with similar work activities and exposures.

The questionnaire has been designed to address a broad range of work activities, exposures, and training needs. It does not, however, provide sufficient inquiry into all work environments or tasks and, therefore, should not be relied on as the sole means of evaluating or assessing hazards to which employees are or may be exposed. We recommend using the checklist in conjunction with other ongoing work assessment or evaluation tools (for example, site visits and tours, statements of work, task order reviews, and verbal communications with project managers) to ensure that training needs are addressed.

Responses to the questionnaire will be used to develop a training requirements matrix to facilitate the tracking of training required or received. A sample format for organizing this information is included as an attachment to this memo. The organization of training requirements and records in this manner will simplify the task of tracking individual employee training needs and status, and serve as an invaluable means of demonstrating compliance. To facilitate use and ease of tailoring, the questionnaire and example training matrix are available in a Microsoft Word file ([TrainingQues0698.doc](#)) or by contacting the contract safety representative.

If you have any questions regarding the content of the questionnaire, please call your contract safety representative.

We welcome your input on how to better improve the training questionnaire content or format.

Attachments

Safety and Health Training Questionnaire

To determine training needs, simply answer the questions.

General

- | Yes | No | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Is the employee a new hire?
Required: NEW HIRE SAFETY AND HEALTH ORIENTATION |
| <input type="checkbox"/> | <input type="checkbox"/> | Is the employee a designated emergency responder authorized to use fire extinguishers to put out incipient fires? Note: Retraining required annually.
Required: FIRE EXTINGUISHER |
| <input type="checkbox"/> | <input type="checkbox"/> | Is the employee an emergency responder for hazardous materials incidents?
Required: EMERGENCY RESPONSE |
| <input type="checkbox"/> | <input type="checkbox"/> | Does the employee work in a high-noise area or work with equipment where the average noise level exceeds 85 dBA, or supervise personnel who do? (High-noise areas and equipment usually are posted as areas or equipment that require hearing protection.)
Required: HEARING CONSERVATION |
| <input type="checkbox"/> | <input type="checkbox"/> | Does the employee have supervisory or managerial responsibility?
Required: MANAGER'S EH&S AWARENESS |
| <input type="checkbox"/> | <input type="checkbox"/> | Does the employee perform medical emergency response duties?
Required: CARDIO PULMONARY RESUSCITATION/FIRST AID |

Chemical Hazards

- | Yes | No | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Is the employee expected to work in buildings with hazardous operations, materials use, or storage?
Required: EMERGENCY PROCEDURES
HAZARD COMMUNICATION |
| <input type="checkbox"/> | <input type="checkbox"/> | Does the employee use or handle hazardous materials?
Required: EMERGENCY PROCEDURES
HAZARD COMMUNICATION/CHEMICAL SAFETY
HAZARDOUS OPERATING PROCEDURES
DECONTAMINATION PROCEDURES
HAZARDOUS WASTE MANAGEMENT
PERSONAL PROTECTIVE EQUIPMENT
FACILITY ACCESS TRAINING
SPILL CONTROL AND CONTAINMENT STRATEGY
WASTEWATER DISCHARGES |
| <input type="checkbox"/> | <input type="checkbox"/> | Does the employee package for shipment, or supervise employees who package for shipment, hazardous and/or radioactive materials?
Required: HAZMAT TRANSPORTATION |

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☐ ☐ Does the employee, through his/her course of work, contact asbestos-containing materials?

Required: ASBESTOS AWARENESS

☐ ☐ Does the employee conduct custodial or maintenance activities that disturb the matrix of asbestos-containing materials?

Required: ASBESTOS OPERATIONS AND MAINTENANCE

☐ ☐ Does the employee work in a lab with human blood or potentially infectious body fluids, or is the employee exposed to blood during assigned first aid, emergency response, or security activities?

Required: BLOODBORNE PATHOGENS

☐ ☐ Does the employee work with or supervise personnel who work with chemicals that are controlled by OSHA as Regulated Carcinogens (i.e., 4-Nitrobiphenyl, alpha-Naphthylamine, Methyl chloromethyl ether, 3,3'-Dichlorobenzidine [and its salts], bis-Chloromethyl ether, beta-Naphthylamine, Benzidine, 4-Aminodiphenyl, Ethyleneimine, beta-Propiolactone, 2-Acetylaminofluorene, 4-Dimethylaminoazobenzene, N-Nitrosodimethylamine, or Vinyl Chloride)?

Required: CARCINOGENS, REGULATED

☐ ☐ Does the employee work in a laboratory?

Required: CHEMICAL HYGIENE FOR LABORATORIES

☐ ☐ Does the employee work with chemical mixtures that contain formaldehyde at levels exceeding 0.1% by weight or which might result in exposures above 0.1 ppm in the air, or supervise personnel who do? Note: Retraining required annually.

Required: FORMALDEHYDE OPERATIONS

☐ ☐ Does the employee work with lead containing alloys or materials (i.e., solders, paints, coatings, etc.), or rework materials that might contain lead (i.e., painted metal or facility remodeling)?

Required: LEAD AWARENESS

☐ ☐ Does the employee work with PCBs or PCB-contaminated electrical components, such as fluorescent light ballasts or PCB transformers; or assist during PCB spill cleanup activities?

Required: PCB HANDLING

☐ ☐ Does the employee use personal protective equipment such as gloves, glasses, face shields, etc.?

Required: PERSONAL PROTECTIVE EQUIPMENT

☐ ☐ Does the employee need to use respiratory protection, such as a half-face or full-face respirator, air supplied (or airline) respirator, or a self-contained breathing apparatus (SCBA), or supervise personnel who do?

Required: RESPIRATORY PROTECTION

Physical Hazards

Yes No

☐ ☐ Does the employee work in construction (construction trades or inspectors), or as a maintenance employee (e.g., plumber, electrician)?

Required: EMERGENCY PROCEDURES

HAZARD COMMUNICATION/CHEMICAL SAFETY

DECONTAMINATION PROCEDURES

HAZARDOUS WASTE MANAGEMENT
 PERSONAL PROTECTIVE EQUIPMENT
 SPILL CONTROL AND CONTAINMENT STRATEGY
 STORMWATER POLLUTION PREVENTION/WASTEWATER
 DISCHARGES
 ASBESTOS AWARENESS (PRE-1979 BUILDINGS)
 LEAD AWARENESS (PRE-1978 BUILDINGS)

- ☐ ☐ Does the employee perform work in a confined space (e.g., tunnels, ducts, pits, tanks, trenches, etc.), act as an attendant during a confined space entry, or supervise personnel who do?
 Required: CONFINED SPACE ENTRY
- ☐ ☐ Does the employee /supervisor work in an elevated environment (more than four feet) where fall protection is required? Or does the employee work with ladders, scaffolding, or near floor openings or holes where people can fall through?
 Required: FALL PROTECTION
- ☐ ☐ Does the employee operate a powered industrial truck/forklift or supervise personnel who do?
 Required: FORKLIFT TRAINING
- ☐ ☐ Does the employee service, maintain, modify, adjust, inspect, construct, or clear equipment in which an unexpected release of energy (electricity, pneumatic, pressure, falling objects, potential energy, etc.) could harm personnel or equipment, or supervise personnel who perform these activities?
 Required: LOCK-OUT/TAG-OUT
- ☐ ☐ Does the employee use fixed or portable power tools (such as grinders, rotary saws, nail guns, powered lawn mowers, etc.) that have guards that prevent physical injury?
 Required: TOOL-SPECIFIC TRAINING (see supervisor for training)
 Required: MACHINE GUARDING
- ☐ ☐ Does the employee operate a boom-lift or scissor-lift, or supervise personnel who do?
 Required: MANLIFT
- ☐ ☐ Does the employee operate overhead cranes or hoists, or supervise personnel who do?
 Required: OVERHEAD CRANES AND HOISTS
- ☐ ☐ Does the employee work with compressed gasses that are stored in cylinders, portable tanks, or high-pressure delivery systems?
 Required: COMPRESSED GAS SAFETY
- ☐ ☐ Does the employee operate a mechanical or hydraulic power-press tool, or supervise personnel who do?
 Required: POWER PRESSES
- ☐ ☐ Does the employee operate woodworking machine(s), or supervise personnel who do?
 Required: WOODWORKING MACHINERY SAFETY
- ☐ ☐ Does the employee routinely lift heavy loads or frequently bend at the waist to handle material? (Depending on the type of work, employees performing any routine lifting, regardless of weight, could benefit from this course.)

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Required: BACK INJURY PREVENTION

Radiation Hazards

Yes No

☐ ☐ Does the employee work in an area where radioactive material or X-ray producing equipment is used or stored, or supervise personnel who do?
Required: RADIATION SAFETY, ANCILLARY

☐ ☐ Does the employee plan, supervise, or operate industrial radiography equipment for nondestructive radiographic examinations of materials during the normal course of his work?

Required: RADIATION SAFETY, INDUSTRIAL RADIOGRAPHY

☐ ☐ Does the employee work with (or in a room with) Class 2 or higher lasers?

Required: SAFETY, LASER

☐ ☐ Does the employee use an analytical or diagnostic X-ray machine?

Required: RADIATION SAFETY, X-RAY

☐ ☐ Does the employee work with sealed sources?

Required: RADIATION SAFETY, SEALED SOURCES

☐ ☐ Does employee work with free isotopes?

Required: RADIATION SAFETY, FREE ISOTOPES

Ergonomics

Yes No

☐ ☐ Does the employee use a visual display terminal for more than four hours a day?

Required: ERGONOMICS, OFFICE

☐ ☐ Does the employee's job require lifting, working in uncomfortable positions, operating vibrating tools, repetitive motion, frequent bending, stooping, or reaching?

Required: ERGONOMICS, INDUSTRIAL

Identify other potential environmental, health, and safety exposures associated with your work activity not addressed by the above questions. _____

Signature:

Employee Name

Date

SUBMIT COMPLETED QUESTIONNAIRE TO CONTRACT SAFETY REPRESENTATIVE

SAIC TEAM S&MA Quarterly Safety Audit Instructions: Hazard: Any condition that could cause injury to personnel, damage equipment, or endanger the environment. **Recognition:** The ability to identify the hazardous condition to allow for the appropriate corrective action to abate the hazard.

Categories of findings:

- .(E) Emergency - have corrected immediately
- .(I) Immediate - Must be corrected within 24 hours
- .(N) Normal - Can be corrected within normal time limits
- .(O) Other - Non-safety issue

General

- Housekeeping - Are all work areas clean, sanitary, and orderly? - Is combustibile scrap, debris, and waste stored safely and removed from the work site promptly? ■ Unstable stacking - Are all work areas free of unstable stacking of paper, boxes, binders, etc.? (This includes offices, copy rooms, file rooms, etc.) - Are the tops of bookcases, file cabinets, and storage cabinets free of items that may fall off of them? - Are all binders/books supported by book ends if on top of file cabinets, overheads, etc.?
- Lighting - Are all work areas adequately illuminated? - Have all lighting problems such as broken ballast, burned out bulbs been reported to facilities?
- Ventilation - Is the work area's ventilation system working properly? - Does it provide adequate ventilation for the work performed?
 - Walkways - Are all work areas free of trip hazards caused by cords, carpet tears, floor tiles, uneven walking surfaces, broken concrete, etc.? - Are areas of potential slip hazards being addressed?
- Hazard Communication/MSDS - Are MSDS sheets available for all chemicals used? - Are they stored in an accessible location? - Are any chemicals present properly labeled with the name of the chemical, health hazard, and manufacturer?
 - Are plant food containers, water jugs, etc. properly labeled?
 - Are all employees current on Hazard Communication training?
- Storage
 - Are work supplies and materials stored in cabinets, on storage shelves, or other areas specifically set aside for that purpose? Storage of supplies and equipment is strictly prohibited in any mechanical room.
- Personal Protective Equipment (PPE) - Are areas assessed for potential

hazards requiring the use of PPE?

- Is PPE provided, used as required, and properly maintained? ■ Noise/Radiation/Chemicals/Dust - Have all physical hazards such as noise/radiation/chemicals/dust been addressed properly?

Emergency Precautions/First Aid

- Emergency Phone Numbers - Are emergency phone numbers posted where they can be readily found in case of an emergency? (x33333 on telephones, safety hotline number posted, etc.)
- Evacuation Procedures - Are fire evacuation routes posted? (e.g., location of stairways, exits, etc.) - Are rendezvous locations at least 75 feet from the building? - Do employees know where to go to seek shelter from tornado warnings?
- Warning Signs
 - Are signs concerning exiting from the buildings, room capacities, floor loading, biohazards, exposure to x-ray/microwaves, or other harmful radiation or substances posted where appropriate?
- Employee Training - Do employees know their emergency evacuation routes and rendezvous locations? - Do employees know their fire wardens? - Do employees know how to report a close call and how to report a mishap? - Do employees know that they must report all mishaps to their manager and to the contract safety representative? - Do employees know: their OSHA Rights; of our VPP initiative; our safety committee?

Fire Protection/Prevention

- Fire Doors/Fire Alarms - Are all fire doors left in the closed position? - Are fire doors in good operating condition? - Are fire doors unobstructed and protected against obstructions? - Are fire alarm pull stations visible and accessible?
- Portable Fire Extinguishers - Are portable fire extinguishers provided in adequate number and type? - Are portable fire extinguishers inspected on a monthly basis; is this inspection documented? - Are portable fire extinguishers mounted in readily accessible locations? - If the location of a portable fire extinguisher is not clearly visible, is the wall above marked with a red square?
- Sprinklers - Are sprinkler heads protected by metal guards when exposed to physical damage? - Is there at least 18 inches of clearance beneath each sprinkler head? (Is it not obstructed by books/plants, etc.?) ■ Fire Hazards/Heat Appliances - Are there any areas

where excessive paper could create a fire hazard by contributing to the overall fire load in any one area? - Are heat appliances turned off when not in use and kept away from combustible materials?

Walkways

- **Hall/Aisle Clearance** - There should be a 44-inch minimum clearance maintained in all hallways and major passageways. - There should be a 36-inch minimum clearance maintained in all other walkways. - Are all aisles/passageways kept clear? - Are materials and objects stored in a manner that ensures sharp objects or corners will not interfere with the walkway? - Where doors open into hallways and aisles, are they marked with yellow stripes to warn passing personnel? - Are "Open Door Slowly" signs posted on doors that may open into walkways, cubicle spaces, or other areas where another person could be standing? ■
- Lighting** - Are all aisles/passageways kept properly illuminated? ■
- Slip/Trip hazards** - Are walking surfaces free of liquid, mold, algae, or other slick conditions which could cause slipping? - Are all hallways and aisles free from cords, cables, or uneven walking surfaces or torn carpet or broken tiles that could create a trip hazard?

Stairs and Stairways

- **Handrails** - Are standard stair rails or handrails available on all stairways that have four or more risers?
- **Stairway Width/Clearance** - Are all stairways at least 22 inches? - Where doors or gates open directly on a stairway, is there a platform provided so the swing of the door does not reduce the width of the platform to less than 22 inches? ■
- Surfaces Slip Resistant** - Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant? ■
- Barriers/Warnings** - Where stairs or stairways are present in any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping into the path of traffic?

Exits

- **Exits Marked/Non-exits Marked** - Are all exits marked with an exit sign and illuminated by a reliable light source? - Are the directions to exits, when not immediately apparent, marked with visible

signs?

- Are doors, passageways or stairways that are neither exits nor access to exits and which could be mistaken for exits appropriately marked "not an exit," "to basement," "storeroom," etc.

■ Exits Clear - Are all exits kept free of obstructions? ■ Number of Exits Adequate

- Are there sufficient exits to permit prompt escape in case of an emergency? ■ Exit Doors - Are doors that are required to serve as exits designed and constructed so that the path of exit travel is obvious and direct? - Are windows that could be mistaken for exit doors made inaccessible by means of barriers or railings? - Can exit doors be opened from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied?

Workstation Ergonomics

■ Workstation Setup - Are workstations properly set up (i.e. correct chair height, wrist angle, monitor

- height, etc.)? - Is the work surface height proper? - Is the workstation designed to minimize or eliminate twisting at the waist, reaching above the shoulder, bending at the waist, static muscle loading, extension of the arms, bending or twisting of the wrist, and elevation of elbows? - Are the employees' hands or arms subjected to pressure from sharp edges on work surfaces? - Are armrests provided? ■

Glare/Lighting - Is the workstation equipped with an antiglare screen (if desired)? Or are screens

- free of glare from ambient light?
- Is there adequate general illumination?
- Should task lighting be provided?

■ Storage and Working Space - Does the working space enable a full range of work movements? - Is adequate auxiliary storage space (bookcases, file cabinets) provided so that desk space can be used primarily for working?

■ Training - Are at risk employees identified and scheduled for computer ergonomics training? - Is Ergo Smart software provided for these employees to use as refresher training? - Have ergonomic evaluations been performed for those employees at risk and who have reported problems?

■ Floor Mats/Feet Supported - Are cushioned floor mats

provided for workers who are required to stand for long periods? - Are footrests provided when needed to ensure that feet/lower legs are supported

and not left to dangle? - Are chairs adjustable? Are they adjusted correctly? - Where chairs or stools are provided, are they easily adjustable and suited to the task?

Electrical

■ Grounding - Are all electrical appliances such as vacuum cleaners, polishers, vending machines, extension cords, etc., grounded? ■ Exposed Wiring/Frayed Cords

- Is exposed wiring and cords with frayed or deteriorated insulated repaired or replaced promptly? - Are flexible cords and cables free of splices or tapes? ■

Cord/Cable Connections - Are all cord and cable connections intact and secure? ■ Circuit Breakers - Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment serviced? - Are outlets overloaded? (limit: 20 amps) ■

Working/Clearance Space Adequate - Is sufficient access working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance?

■ Unused Openings Covered - Are all unused openings (including conduit knockouts) in electrical enclosures and fittings enclosed with appropriate covers, plugs, or plates?

- Are switches, receptacles, etc., provided with tight-fitting covers or plates? - Are multiple plug adapters in use? These should be removed.

■ Equipment Condition/UL Listed - Are all personal electrical equipment such as coffee makers, radios, lamps, and similar appliances Underwriters' Laboratory (UL) listed? - Is all electrical equipment in good condition? ■ Extension Cords/Power Strips Ganged

- Are there electrical power strips or extension cords connected in series?
(Only a single strip connected to a single extension shall be used between equipment and facility electrical outlet.)
- Are household-type extension cords in use? (Cord does not have a ground pin.)
- Space Heaters - Are space heaters in use? - Has it been approved by the contract safety representative or assistant contract safety representative?

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Appendix F. VPP Manager's Implementation Guide

32 Elements of VPP	If you are a manager, then you will...	Examples of Documentation
1.1 Management Commitment <ul style="list-style-type: none"> Clearly established policies and procedures. Goal-oriented objectives and accountability. 	<ul style="list-style-type: none"> Know and implement the Safety and Health Plan. Communicate the safety and health policy to all employees. Provide example of visible leadership in your Safety and Health Program through inspections. Communicate safety methods and open hazards to all supervisors and employees. Establish goals and results-oriented objectives (with due dates), using PEP results with measures to achieve them, and annually review the effectiveness of implementation. Communicate safety goals and objectives to all supervisors and employees. Encourage safety committees and staff safety meetings with representatives from all organization levels. Show commitment to VPP and show commitment to maintain the VPP element requirements. 	<ul style="list-style-type: none"> Walkthrough inspections. Position descriptions and performance plans. Employee recognition and awards. Hazard-tracking data (especially examples of fixes you have implemented). Annual written goals and objectives tracked to closure. Safety meeting minutes.
1.2 VPP Commitment <ul style="list-style-type: none"> Commitment to meeting and maintaining VPP requirements. 		<ul style="list-style-type: none"> Safety meeting minutes. Participate in VPP participants' association conferences.
1.3 Planning <ul style="list-style-type: none"> Safety and health integral to change planning. 	<ul style="list-style-type: none"> Ensure that your organization includes the safety and health disciplines in change planning when applicable. 	<ul style="list-style-type: none"> Work processes that show how safety and health disciplines are integrated into the change-planning process.
1.4 Written Safety and Health Program <ul style="list-style-type: none"> Includes critical elements. Is appropriate to site size. 	<ul style="list-style-type: none"> Know and implement Safety and Health Plan. 	<ul style="list-style-type: none"> Know how to find the Safety and Health Plan on the Web page.
1.5 Top Management Leadership <ul style="list-style-type: none"> Opens clear lines of communication with employees. Sets example of safe behaviors. Ensures all workers, including contractors, are covered by the same high-quality safety and health program. 	<ul style="list-style-type: none"> Be aware of the program manager's emphasis on maintaining and continuously improving the Safety and Health Plan. 	<ul style="list-style-type: none"> Safety meeting minutes reflect that you promote the program manager's safety and health philosophy.
1.6 Authority and Resources <ul style="list-style-type: none"> Proper authority given to meet safety and health responsibilities. Commitment of adequate resources. 	<ul style="list-style-type: none"> Ensure adequate resources—including staff, equipment, and incentive programs—are available. 	<ul style="list-style-type: none"> Identifiable safety portion in budget.

32 Elements of VPP	If you are a manager, then you will...	Examples of Documentation
1.7 Line Accountability <ul style="list-style-type: none"> Documented system for holding all managers and leads and supervisors accountable for safety and health 	<ul style="list-style-type: none"> Ensure that employees are held accountable for their safety and health responsibilities and are evaluated annually on performance effectiveness according to measurements included in performance appraisal plans. Delegate clearly defined accountability, commensurate with responsibility, within the organization. Assure that all employees read and understand their responsibilities as defined in the Safety and Health Plan. 	<ul style="list-style-type: none"> Performance plans and reviews. Position descriptions.
1.8 Contract Workers <ul style="list-style-type: none"> Written program. Selection criteria. Contract requirements. Evaluation and enforcement. 	<ul style="list-style-type: none"> Ensure that safety is a source-selection factor, and that safety is a part of contractor's performance evaluation. Ensure contractors follow NASA, OSHA, and contract requirements (contractor safety and health programs will be consistent with JSC's Safety and Health program). Ensure that contractor involvement in JSC Safety and Health program is appropriate. 	<ul style="list-style-type: none"> Document that contractors participate in the Safety and Health program. Contractor performance evaluations.
1.9 Employee Involvement <ul style="list-style-type: none"> Meaningful ways for employees to participate in the Safety and Health Program. 	<ul style="list-style-type: none"> Involve employees in active, meaningful Contracts that provide opportunities for employees to positively impact decision making on safety and health issues (e.g., participation in inspection planning activities, workplace safety inspections, mishap/accident boards, safety procedure revisions, training and certification requirements, and hazard analysis plans) Develop formal process to document, evaluate, and review discrepancies, track corrective actions, and communicate results to employees. 	<ul style="list-style-type: none"> Safety meeting minutes. Incentive program. Safety and health awareness activities. Activity reports.
1.10 Safety and Health Plan Evaluation <ul style="list-style-type: none"> Must be in written narrative form. Must have action dates. Must cover all 32 program elements. Must cover the status of the action dates from the prior year's annual evaluation. 	<ul style="list-style-type: none"> Use the PEP as a tool for the annual performance evaluation. Must cover the status of the action dates from the prior year annual evaluation. 	<ul style="list-style-type: none"> Annual written goals and objectives (tracked to closure). PEP results and get-well plans.
2.1 Management Understanding <ul style="list-style-type: none"> Management understands the hazards of the workplace. 	<ul style="list-style-type: none"> Be aware of the current hazards in your organization's work sites. 	<ul style="list-style-type: none"> Facility and process hazard analyses. Job hazard analyses.

32 Elements of VPP	If you are a manager, then you will...	Examples of Documentation
2.2 Industrial Hygiene <ul style="list-style-type: none"> Baseline surveys. Sampling, testing, and analysis with written records of results. Tracking of hazards to correction. 	<ul style="list-style-type: none"> Cooperate with occupational health personnel when they visit your area. Know who to call when occupational health issues arise. Track occupational health hazards and open items to closure. Periodically reevaluate all documentation to ensure actual conditions reflect the workplace and programs (i.e., PPE, safety equipment, monitoring, and sampling). 	<ul style="list-style-type: none"> Hazard-tracking data. Health monitoring records.
2.3 Pre-Use Analysis <ul style="list-style-type: none"> All new processes, materials, and equipment are analyzed before use. All hazards identified are eliminated or controlled. 	<ul style="list-style-type: none"> Conduct preliminary hazard analysis and other types of safety and health analyses with employee participation. Eliminate or control hazards (see Element #20). Ensure that the safety and health personnel are involved with analysis of all new or amendments to existing processes, materials, or equipment. Communicate analysis, data, and resulting preventive actions to employees. Track hazards to closure. 	<ul style="list-style-type: none"> Design reviews. Facility baseline documentation. ORI, URR, TRR Job hazard analysis. Chemical hygiene plans. MSDS.
2.4 Hazard Analysis <ul style="list-style-type: none"> Written procedures covering routine as well as when changes occur. Must include affected employees. 	<ul style="list-style-type: none"> Conduct job hazard analysis and other types of safety and health analysis with employee participation. Communicate analysis data and resulting preventive actions to employees. Track hazards to closure. 	<ul style="list-style-type: none"> Facility baseline documentation. ORI, URR, TRR. Job hazard analysis. Chemical hygiene plans. MSDS.
2.5 Routine Inspections <ul style="list-style-type: none"> Monthly. Cover entire work site quarterly. Tracking of hazards to correction. 	<ul style="list-style-type: none"> Ensure that supervisors are trained in hazardous recognition and participate in routine self-inspections of work areas, utilizing written procedures or guidelines. Employee participation in routine inspections is mandatory. Routine inspections should be performed monthly, cover the entire workplace quarterly, and identified hazards tracked to closure. 	<ul style="list-style-type: none"> Walkthrough inspection reports that spell out action items and assignees. Hazard-tracking reports.
2.6 Employee Hazard Reporting System <ul style="list-style-type: none"> Formal written reporting system. Timely and appropriate responses. Tracking of hazards to correction. 	<ul style="list-style-type: none"> Actively encourage employees to report, without fear of reprisal, any mishaps, close calls, or safety and health concerns that they identify. Periodically remind employees of JSC Safe Alert System, JSC Director's Hotline, JSC Safety Hotline, and the NASA Safety Reporting System. Ensure timely and appropriate responses to employee concerns. Track hazards to closure. 	<ul style="list-style-type: none"> Close calls. Hazard-tracking reports. Corrective action plans.

Safety

22 Elements of VPP	If you are a manager, then you will...	Examples of Documenta- tion
2.7 Mishap/Incident Invest- igation <ul style="list-style-type: none"> Goal is to strengthen pre- vention program Written procedures Written reports of findings Tracking hazards to correc- tion 	<ul style="list-style-type: none"> Assure that mishaps and close calls are thoroughly investigated in a timely manner to determine root cause and that corrective action plans are devel- oped, documented, and tracked to clo- sure. Ensure safety information regarding mishaps and near misses in the work- place is made available to employees. Use global and location-specific statis- tical data as a management tool (see VPP Element #8). Review periodically and use results to improve Safety and Health program 	<ul style="list-style-type: none"> Document mishaps Investigation and trending analysis (see Element #18)
2.8 Trend Analysis <ul style="list-style-type: none"> Three-year average rate for total recordable cases Lost workday cases Restricted duty cases Medical treatments Lost workday and re- stricted-duty cases Close calls Mishap investigations Reviewed periodically by management and used to improve the Safety and Health program 	<ul style="list-style-type: none"> Review periodically and use results to improve Safety and Health program 	<ul style="list-style-type: none"> Document mishaps Investigation and trending analysis Monthly metrics Tracking of top three trends for location and corrective action
3.1 Certified Professional Resources <ul style="list-style-type: none"> Access to certified safety professionals (CSP) Certified industrial hygien- ists (CIH) 	<ul style="list-style-type: none"> Be aware that CSPs and CIHs are provided by the safety, health and mission assurance area and that the occupational health office organiza- tions are available from site resources as well as corporate resources 	<ul style="list-style-type: none"> Organization charts
3.2 Hazard Elimination or Control <ul style="list-style-type: none"> Engineering controls Administrative controls Safety and health rules -- written and appropriate PPE Hazard-control programs, including thorough chemi- cal control program 	<ul style="list-style-type: none"> Eliminate or control hazards by (in de- scending order of preference): Engineering controls or design changes Administrative controls PPE Safety and health rules Preventive or predictive maintenance 	<ul style="list-style-type: none"> Procedures and work in- structions Hazard analysis Chemical hygiene plans
3.3 Process Safety Man- agement <ul style="list-style-type: none"> Assess applicability based on quantity of targeted chemicals 	<ul style="list-style-type: none"> Be aware that operations will be evaluated for the types and quantities of hazardous materials to invoke the Process Safety Management program 	<ul style="list-style-type: none"> Implementation documenta- tion of the 14 elements for areas that fall under the standard Coordinate with JSC's En- vironmental, Health, and Safety offices on the proc- ess safety
3.4 Preventive Maintenance <ul style="list-style-type: none"> Written Preventive Mainte- nance program Ongoing monitoring and maintenance of workplace equipment 	<ul style="list-style-type: none"> Ensure ongoing monitoring and main- tenance of workplace equipment Ensure operations procedures are re- viewed regularly for adequacy 	<ul style="list-style-type: none"> Preventive maintenance plan and tracking Documentation on assign- ments of responsibility
3.5 Hazard Correction Tracking	<ul style="list-style-type: none"> Be aware of, and use, TEAMS and NASA surveillance systems to track 	<ul style="list-style-type: none"> Be able to demonstrate a working knowledge of how

32 Elements of VPP	If you are a manager, then you will...	Examples of Documentation
<ul style="list-style-type: none"> System for tracking hazards to closure. 	hazards to closure	to use data systems (data input and data retrieval)
3.6 Occupational Health-care Program <ul style="list-style-type: none"> Availability of physician services. Program appropriate to site. Medical experts used in analyzing health hazards. Personnel trained in first aid/cardio pulmonary resuscitation. 	<ul style="list-style-type: none"> Ensure that employees are knowledgeable of on-site health unit and after-hours medical care. Ensure employees are knowledgeable of special medical needs based on occupational health hazards. 	<ul style="list-style-type: none"> Injuries and illnesses documented on NASA Form 1627. Occupational health analyses and reports.
3.7 Disciplinary System <ul style="list-style-type: none"> Written program that is communicated to all employees. Covers both supervisors and their employees 	<ul style="list-style-type: none"> Know the disciplinary program and use it as required. Take action for willful or repeated safety violations by contractors, sub-contractors, or other individuals. Ensure that employees know the disciplinary program. 	<ul style="list-style-type: none"> Document disciplinary actions, if any. Train employees to be aware of disciplinary program.
3.8 Emergency Procedures <ul style="list-style-type: none"> Written emergency program. Drills for all employees. Preparedness plan. 	<ul style="list-style-type: none"> Ensure development, communication, and documentation of, and training in, procedures for emergency response in your employees' work areas. Provide emergency telephone numbers, exit routes, and training drills. List required PPE. Ensure that all employees participate in drills. Periodically, reevaluate workplace emergency preparedness requirements and emergency response plans. 	<ul style="list-style-type: none"> Emergency action plans. Fire drill attendance records. Employee accountability records.
4.1 Safety and Health Training Program Description <ul style="list-style-type: none"> Must be written. 	<ul style="list-style-type: none"> Involve employees in the development of training requirements, certification requirements, and training plans including the orientation plan for new hires. Maintain retrievable recordkeeping system for employee training. 	<ul style="list-style-type: none"> Training plans and records. Performance reviews.
4.2 Supervisor Training <ul style="list-style-type: none"> Must understand and carry out responsibilities. Must know hazards in their areas of responsibility. 	<ul style="list-style-type: none"> Ensure that supervisors are trained to: Understand hazards in their work areas. Recognize potential effects on their employees. Ensure employees follow rules. 	<ul style="list-style-type: none"> Training plans and records. Performance reviews.
4.3 Employee Training <ul style="list-style-type: none"> Must understand hazards associated with job 	<ul style="list-style-type: none"> Ensure that your employees are trained to understand and effectively carry out their safety and health responsibilities and tasks. Use job hazard analysis to determine required training in: Hazard awareness. Safe work procedures. Emergency situations. PPE use. 	<ul style="list-style-type: none"> Training plans/records. Performance reviews.

22 Elements of VPP	If you are a manager, then you will...	Examples of Documentation
4.4 Emergencies Training <ul style="list-style-type: none"> • All persons on-site will know what to do in an emergency, including visitors. 	<ul style="list-style-type: none"> • Ensure that everyone is trained to understand and effectively protect themselves in emergency situations. • 	<ul style="list-style-type: none"> • Annual fire drill attendance records. • Other emergency training records.
4.5 Personal Protective Equipment <ul style="list-style-type: none"> • Appropriate PPE. • PPE training on care and use. • Replacement of PPE. 	<ul style="list-style-type: none"> • Ensure that employees have required PPE, are trained in its use, and are using it. • Ensure that PPE is maintained or replaced as required. 	<ul style="list-style-type: none"> • Budget line item for PPE. • PPE training records.
4.6 Managers Training <ul style="list-style-type: none"> • Must understand and carry out responsibilities. 	<ul style="list-style-type: none"> • Ensure managers are trained to understand and carry out their responsibilities. 	<ul style="list-style-type: none"> • Training plans/records. • Performance reviews.

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Appendix H. Hazard and Close Call Report



An Employee Owned Company

Hazard or Unsafe Condition What is the hazardous condition?

FILE NUMBER (Official use only)

Where is it located? Site _____ Building _____ Room _____

Other _____

When did you discover it? Date _____ Time _____

Which organizations were involved?

What corrective action did you take or do you recommend?

Close Call

What was the close call?

Where did it happen? Site _____ Building _____ Room _____

Other _____

When did you discover or observe it? Date _____ Time _____

Which organizations were involved?

What corrective action did you take or do you recommend?

Contact Information: _____

☐ Keep my name confidential

Name Mail Code Department Telephone _____

Your name is optional, and all items will be addressed regardless of your choice. However, having your name and number allows us to contact you for further information, closure reporting, and eligibility for participation awards.

Appendix I. Job Hazard Analysis Worksheet

Task/Job			Facility			Date		
Group			Analysis by			Reviewed by		
Task Steps, Materials, Equipment	Potential Hazards	Baseline Risk	Engineering Controls (Solutions)	Warning Devices	PPE	Handling/Work Practices/Procedures	Environmental Controls	Residual Risk

Note: Example only, use on landscape-formatted sheet. Submit completed assessments to S&MA SSC CSR.

Example completed form:

Task/Job		Facility		Date				
Various (For Example Only)		RTTF		8-1-2005				
Group		Analysis by		Prepared by				
RTTF		D. Applegate		D. Robbins				
Task Steps, Materials, Equipment	Potential Hazards	Baseline Risk	Engineering Controls (Solutions)	Warning Devices	PPE	Handling/Work Practices/Procedures	Environmental Controls	Residual Risk
Electrical Test Room (1001) OES/Wire Test Area (1001A) Machine Shop (H-Hay) Room 1000B Electrical Test Room (1001) Machine Shop (H-Hay) Room 1000B Electrical Test Area (1001)	Temperature - heat Environmental Chambers Soldering Iron Eye hazard Re-melt furnace arc rays Shock hazard/high voltage Contact with exposed wiring or shorted equipment Optical radiation/eye hazard Laser Cutter (Class IIIb laser), Confocal laser scanning microscope	IV/B/3 III/C/2 III/C/2 III/C/3	Limited access, thermal insulated gloves available, procedurally addressed, training Faller present on equipment, interlocks on equipment, training Limited access, procedurally addressed, warning signs posted, physical barrier, training Equipment design includes interlocks and 2 HAZO lenses, procedure, limited access, training	warning signs warning signs warning signs	insulated gloves Eye Protection N/A N/A	RTTF SOP RTTF SOP RTTF SOP Laser Cutter SOP	NA NA NA NA	Controlled IV/C/4 Controlled III/C/3 Controlled III/C/3 Controlled IV/C/4

Addendum J. S&MA SSC Hazardous Operations

SAIC TEAM S&MA SSC Hazardous Operations		
Location & Operation	Hazardous Operation	Category
Building 15 - RITF		
Class 1 Laser Cutter	Yes	II
Scanning Electron Microscope - Ionizing Radiation	Yes	II
Sputter Coater	Yes	IV
X-Ray Cabinets - Ionizing Radiation	Yes	II
Fluorescent Spectrometer - Ionizing	Yes	II
Zeiss Laser Scanning Confocal	Yes	II
Hazardous Chemicals, Including Etchants (Hydrofluoric Acid, Fuming Red Nitric Acid, Iodine, and Bromine) and Other Caustic and Flammable Chemicals	Yes	IV
Machine Shop Equipment	Yes	II
NSC Plastic Decapsulators	Yes	II
Solder Pot	Yes	II
Cryogenics	Yes	II
Furnaces, Burn-In Ovens, and Environmental Chambers	Yes	II
Tensile and Compression Testing	Yes	IV
Hand Soldering	Yes	II
Wire Wrapping	Yes	II
JSC Quality Assurance/Quality Control Exposures		
Confined Space Entry	Yes	II
Use of X-Ray Equipment—Ionizing Radiation	Yes	IV
Exposure to Pressure Systems, Component or System Proof Pressure Tests	Yes	IV
Exposure to Facilities Operations:	Yes	
• Acoustic and Vibration Chambers		IV
• Impact Testing		IV
• Laser and Solar Simulator Testing		II
• Hypobaric and Hyperbaric Chambers		II
• Oxygen-Enriched or Oxygen-Deficient Atmospheres		IV
Exposure to Hazardous Materials	Yes	IV
Exposure to Explosives	Yes	I
Exposure to Cryogenic Materials	Yes	II
Exposure to Machine Shop Equipment	Yes	IV
Exposure to Welding, Brazing, Cutting and Grinding Operations	Yes	II
Exposure to Boilers and Steam Systems	Yes	II

Exposure to Energized Electrical Equipment	Yes	II
Exposure to Furnaces, Burn-In Ovens, Annealing Ovens	Yes	II
Exposure to Human Body Fluids and Biological Specimen Transfer	No	IV

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Appendix J. S&MA SSC Contract Hazardous Operations

SAIC-TEAM S&MA SSC Hazardous Operations		
Location & Operation	Hazardous Operation	Category
Building 15 - RITF		
Class 1 Laser Cutter	Yes	II
Scanning Electron Microscope - Ionizing Radiation	Yes	II
Sputter Coater	Yes	IV
X-Ray Cabinets - Ionizing Radiation	Yes	II
Fluorescent Spectrometer - Ionizing	Yes	II
Zeiss Laser Scanning Confocal	Yes	II
Hazardous Chemicals, including Etchants (Hydrofluoric Acid, Fuming Red Nitric Acid, Iodine, and Bromine) and Other Caustic and Flammable Chemicals	Yes	IV
Machine Shop Equipment	Yes	II
Plasma Etchers	Yes	II
Solder Pot	Yes	II
Cryogenics	Yes	II
Furnaces, Burn-In Ovens, and Environmental Chambers	Yes	II
Tensile and Compression Testing	Yes	IV
Hand Soldering	Yes	II
Wire Wrapping	Yes	II
JSC Quality Assurance/Quality Control Exposures	Yes	I
Confined Space Entry	Yes	II
Use of X-Ray Equipment—Ionizing Radiation	Yes	IV
Exposure to Pressure Systems, Component or System Proof Pressure Tests	Yes	IV
Exposure to Facilities Operations:	Yes	
• Acoustic and Vibration Chambers		IV
• Impact Testing		IV
• Laser and Solar Simulator Testing		II
• Hypobaric and Hyperbaric Chambers		II
• Oxygen-Enriched or Oxygen-Deficient Atmospheres		IV
Exposure to Hazardous Materials	Yes	IV
Exposure to Explosives	Yes	I
Exposure to Cryogenic Materials	Yes	II
Exposure to Machine Shop Equipment	Yes	IV
Exposure to Welding, Brazing, Cutting and Grinding Operations	Yes	II
Exposure to Boilers and Steam Systems	Yes	II
Exposure to Energized Electrical Equipment	Yes	II
Exposure to Furnaces, Burn-In Ovens, Annealing Ovens	Yes	II
Exposure to Human Body Fluids and Biological Specimen Transfer	No	IV

SAIC Approval: Date: NASA Approval:

Date:

Appendix K. STOP IT! Chart

If You See an Unsafe Act or Condition

STOP IT!

Applies to all Hazards: Flight or Ground

**Then select one of the following in this order.
Keep going until you get the problem resolved.**

1. **Call the local emergency number** if you need immediate fire, medical or security assistance:

281 483-3333 for Emergencies at JSC and SCIF

281 244-4444 for Fire + Medical help at Ellington Field

Use 281 483-3333 for Ellington Field Security Assistance

2. **Fix it yourself** (if qualified and authorized) & submit a **Close Call Report**

3. **Alert your Supervisor** and submit a **Close Call Report**

4. **Report it to the Facility Manager** and submit a **Close Call Report**
(Facility Manager contact information is on the first floor of each building)

5. **Contact the appropriate Program Office** if it is a flight program issue:
[International Space Station Program Weblink](#)
[Space Shuttle Program Weblink](#)

6. **Submit a JSC Close Call Report**

7. **Call the JSC Safety Action Hotline** 281 483-7500
Call 24 hours a day, 7 days a week

8. **Call the Center Director's Hotline** 281 483-1234

9. **Call the JSC Ombuds**: Dr. Dr. Linda Godwin 281-244-8803

10. **Contact NASA HQ**



11. **Submit an NSRS** (NASA Safety Reporting System)
Forms can also be found in building lobbies

12. **Call OSHA**: 1 800 321-6742

Check Link for Latest revision: <http://www6.jsc.nasa.gov/safety/R&R-Hazards/Stoplt.pdf> or call JSC-NS Safety & Test Operations Division (281) 483-4900

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